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**Mums and their sons; Dads and their daughters:
Panel Data Evidence of Parental Altruism across
14 EU Countries**

José Alberto Molina*, María Navarro* and Ian Walker**

*Department of Economic Analysis, University of Zaragoza, Spain

** Department of Economics, University of Warwick, UK

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Abstract:

We study how fathers' and mothers' income satisfaction correlate with the income satisfaction of their sons and daughters, as well as with other economic and socio-demographic variables. We estimate these correlations using data on parents and children in households surveyed in the eight waves of the European Community Household Panel-ECHP (1994-2001) for 14 EU countries. To assess the robustness of simple correlations to we exploit siblings in the Panel and we investigate the sensitivity of the estimates to the inclusion of other control variables. We also adopt a multi-level random effects ordered probit specification that exploits step-parents in the data to allow us to decompose nature from nurture effects. Our headline results suggest strong altruism effects, but these estimated effects differ across countries, differ between mothers and fathers, and are different between sons and daughters.

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José Alberto Molina: jamolina@unizar.es; Tel: 0034976761818; Fax: 0034976761996; Faculty of Economics, University of Zaragoza, Gran Vía, 2, 50005 Zaragoza, Spain

María Navarro Paniagua: navarro@unizar.es; Tel: 0034976761000. Ext.; 4728 ; Fax: 0034976761996 Faculty of Economics, University of Zaragoza, Gran Vía, 2, 50005 Zaragoza, Spain

Ian Walker: i.walker@warwick.ac.uk; Tel: +44/0 24765 23054; Fax: +44/0 24765 23032; Department of Economics, University of Warwick, Coventry CV4 7AL, UK

1. Introduction

The extent to which parents are altruistic towards their children is important because government policy towards children is usually mediated by the parent(s). In particular, most developed countries provide significant income transfers to parents that are motivated by concern over the well-being of children, especially those in low income households. For example, in the US the recently introduced Child Tax Credit (CTC), which goes to the vast majority of children¹, costs almost \$1 billion *each week*, or about 0.4% of GNP. The UK government spends about \$25 (at present exchange rates) each week on each child in the form of a lump sum transfer called Child Benefit (CB) and together with its own version of CTC, which goes to almost all children, accounts for about 1% of GDP². Moreover, altruism would suggest a crowding out effect between public and private transfers such that public transfers directly to children would be offset by reductions in private transfers (see Kang and Sawada (2003)).

The aim of this paper is to estimate the extent of altruism between parents and their children. To address this, we use responses to questions about satisfaction with income as measures of marginal utility³. An optimising altruistic parent should equate the ratio of his/her marginal utility of consumption to that of their child to the weight of the child's utility in the parent's welfare function. In other words, an altruistic parent should transfer resources to her/his child if the parental marginal utility of consumption is higher than the weight that the parent places on the child's welfare times the child's marginal utility of consumption. So a correlation coefficient between parental and child marginal utilities is an estimate of the weight of the child's utility in the parental preferences.

Altruism is often deduced from bequest behaviour or from data on inter-vivos transfers to grown up children⁴. Data in these studies are often problematic and it would

¹ See Burman and Wheaton (2005).

² See Bradshaw and Finch (2002) for details of 22 countries.

³ Notable studies of individual well-being include Blanchflower and Oswald (2004), Frey and Stutzer (2001, 2002), Layard (2005), Oswald (1997), and Oswald (2002). Interdependencies between *levels* of well-being of spouses can be found in Winkelmann and Winkelmann (1995) who found a negative effect on the well-being of wives from having an unemployed husband. García et al. (2005) found that in Southern European countries, the interdependencies between the levels of well-being of spouses is stronger than in the rest of Europe.

⁴ See Altonji *et al* (1996) for evidence of intergenerational altruistic links between parents and adult children, and for a survey of altruism in the context of charitable giving see Rose-Ackerman (1996).

clearly be useful to attempt to substantiate their findings using more direct methods. Thus, our approach represents an important advance on the previous literature by means of providing estimates over 14 countries using a rich and internationally comparable dataset, the eight waves of the European Community Household Panel-ECHP (1994-2001). The data is a panel which allows us to consider fixed-effect estimation, and the data contains information on all individuals within the household and so we can consider sibling differences to eliminate family fixed effects.

In contrast to our work here, which relies on responses to questions about satisfaction with income to measure the marginal utility of consumption, Winkelmann (2005) models the intra-family correlation between *levels* of subjective well-being using an hierarchical random effects model. Similarly Schwarze and Winkelmann (2005) study the well-being of parents and its correlation with that of their children (older than 16 and have moved out of the parental home), using panel data from Germany. While correlations between the *levels* of well-being will be suggestive of altruism it will not, in general, be able to reveal the degree of altruism.

The outline of the paper is as follows: in Section 2 we briefly describe the data; in Section 3 we provide the methodology; in Section 4 we present some estimates from a variety of methods; and in Section 5 we conclude with an agenda for future research.

2. Data

The data used in this work comes from the eight⁵ waves of the European Community Household Panel-ECHP (1994-2001) for 14 European Countries⁶. We select families in which either parent (father and/or mother) and the child(ren), who is more than 16 and still lives at home⁷, declare non-missing responses to the question concerned with their satisfactions with income. The specific question we exploit is: “How satisfied are you with your present financial situation?” which takes values from “not satisfied at all” (1) to “completely satisfied” (6). This satisfaction question is based on individuals’ own perceptions, in such a way that Figures 1 and 2 show the mean

⁵ ECHP gives us income information about the previous year so that we have a final panel composed of seven waves.

⁶ We omit Sweden because their survey does not include the income satisfaction questions.

⁷ Household members who leave the original household are not followed up in ECHP. We consider the impact of this censoring in our subsequent analysis.

economic satisfaction of parents (fathers and mothers) and that of the child (sons and daughters), respectively.

With respect to the independent variables, our study includes a number of parent and child individual characteristics that have been proved as important determinants of individual subjective well-being in previous research. In both cases, these are economic and socio-demographic variables. The socio-demographic variables include the age of the parent and the age squared of the parent (*ParentAge*, *ParentAge2*). Others indicate the education level of the parent and the one of the child (*ParentPrimEduc*, *ParentSeconEduc*, *ParentHighEduc*, *ChildPrimEduc*, *ChildSeconEduc*, *ChildHighEduc*), as well as two other variables: the first indicating the number of children under 16 in the household (*Children<16*), and the second indicating whether the household own their flat or house (*HouseOwnership*), a variable that can be interpreted as a wealth family proxy. Introducing logarithmic family income⁸ and household size is an alternative to imposing an arbitrary “income equivalence scale” to account for size effects. Finally, the study also includes a variable which indicates whether the parent and the child are employed or not (*ParentEmployed*, *ChildEmployed*), this being among the strongest predictors of high well-being.

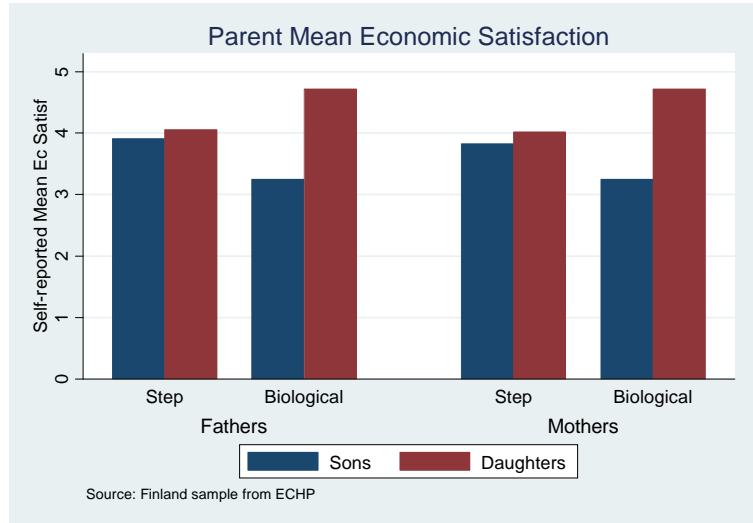
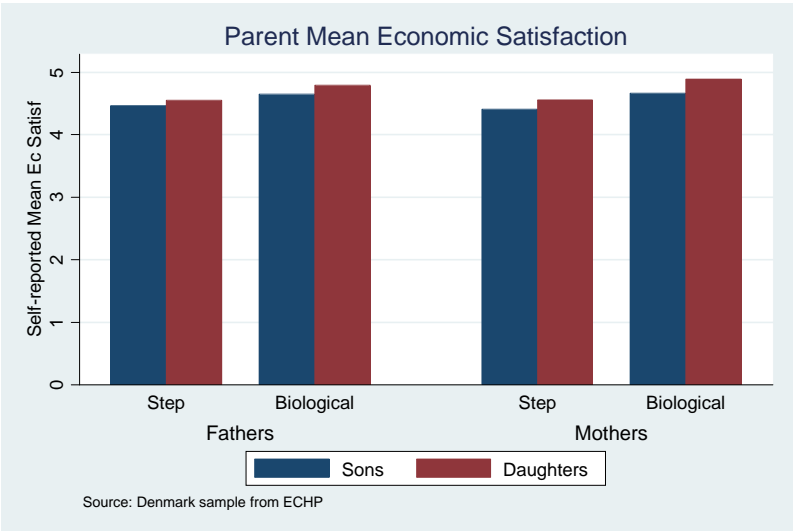
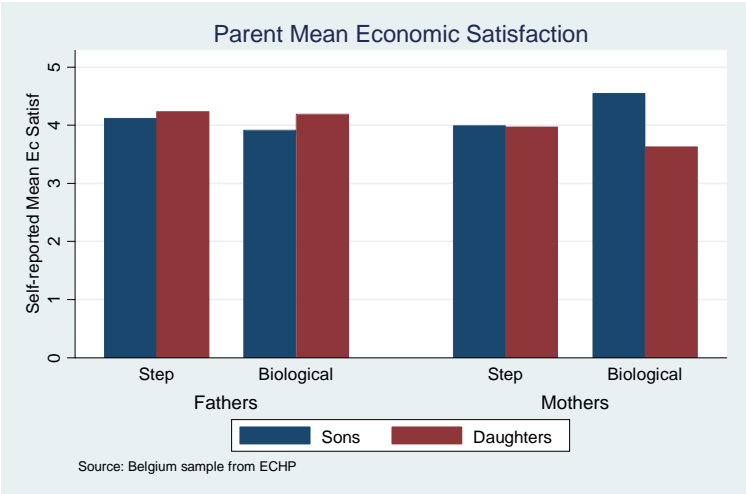
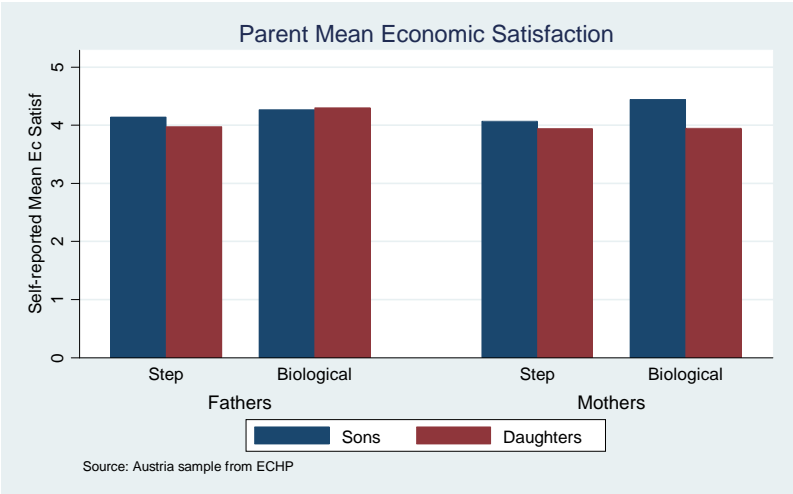
In our dataset it is possible to distinguish between biological and non-biological children, so that we are going to introduce the possibility of being a step-son or a step-daughter and these variables interacted with satisfaction of the child and the logarithm of family income in order to see in which direction and if there is a significant effect in the father or the mother economic satisfaction⁹.

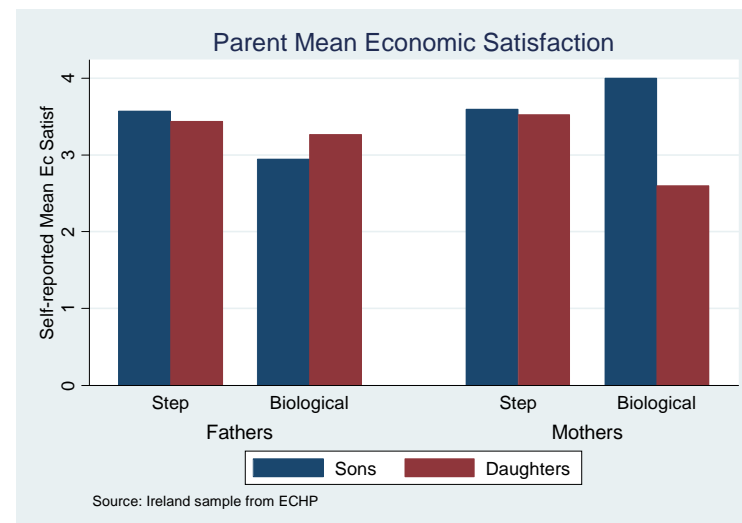
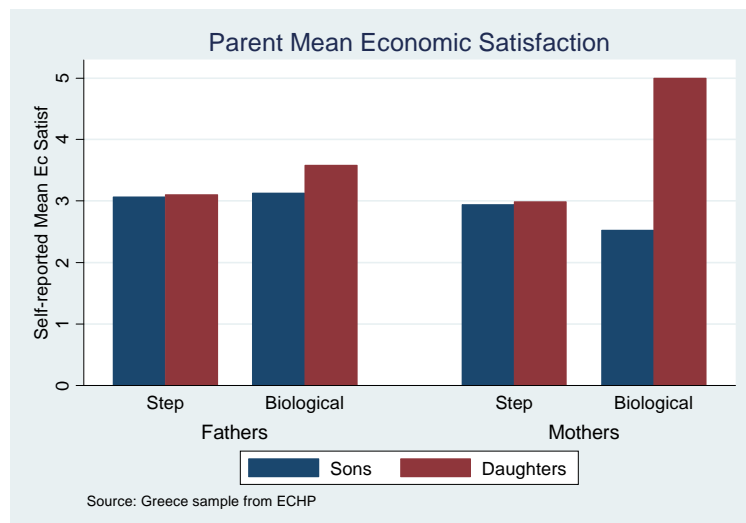
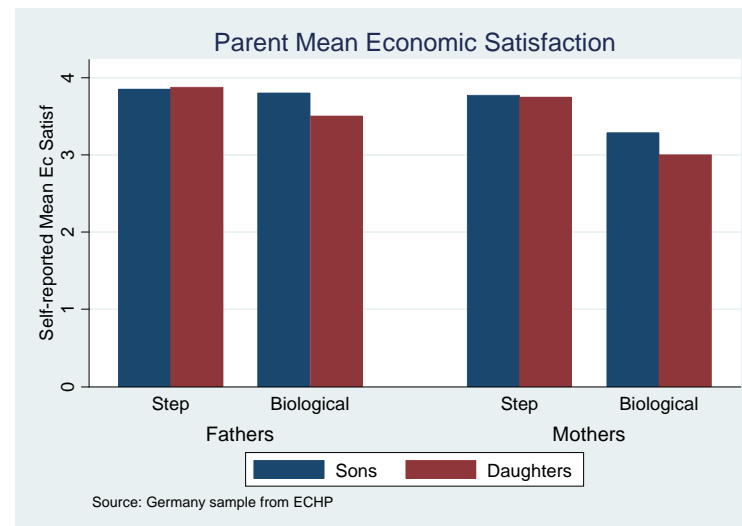
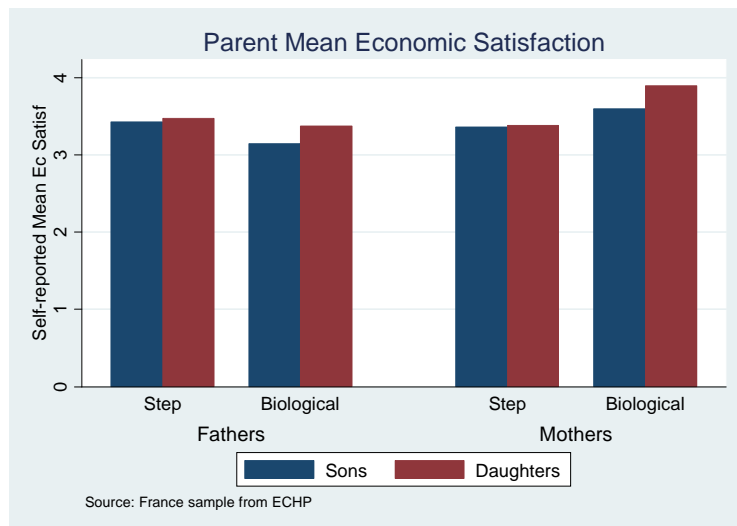
In Figures 1 we can observe that biological fathers have higher mean satisfaction with income in the daughters sample than in the sons one, save in Germany, Italy, Luxembourg and the Netherlands. While father’s mean satisfaction tends to be similar in the step samples of sons and daughters. This is also a feature of (small) samples of

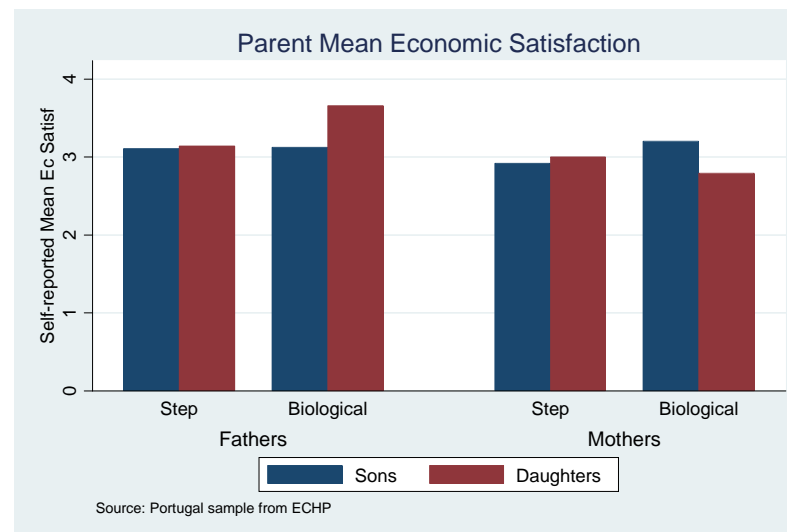
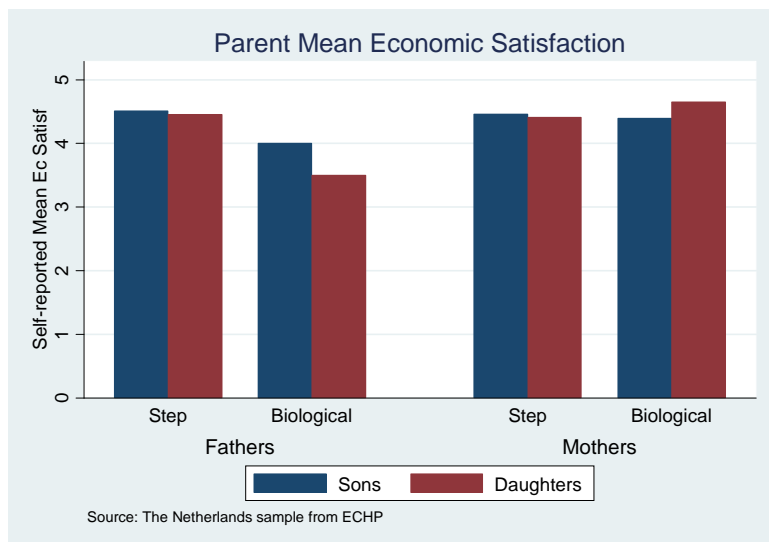
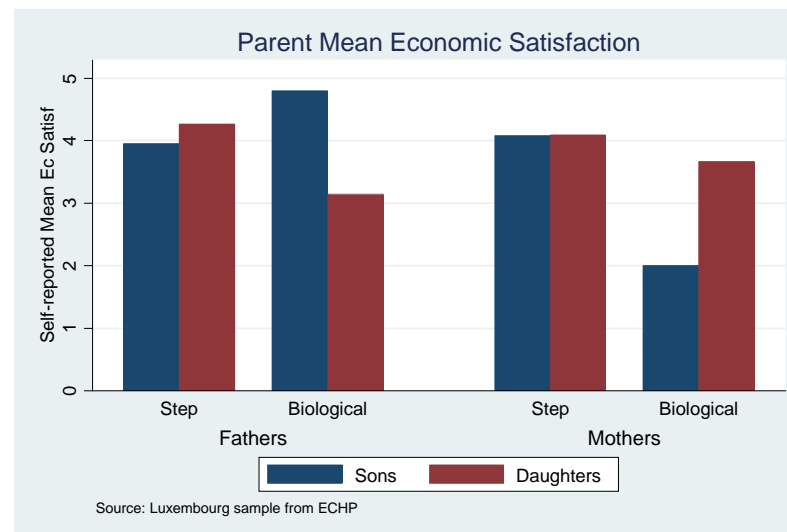
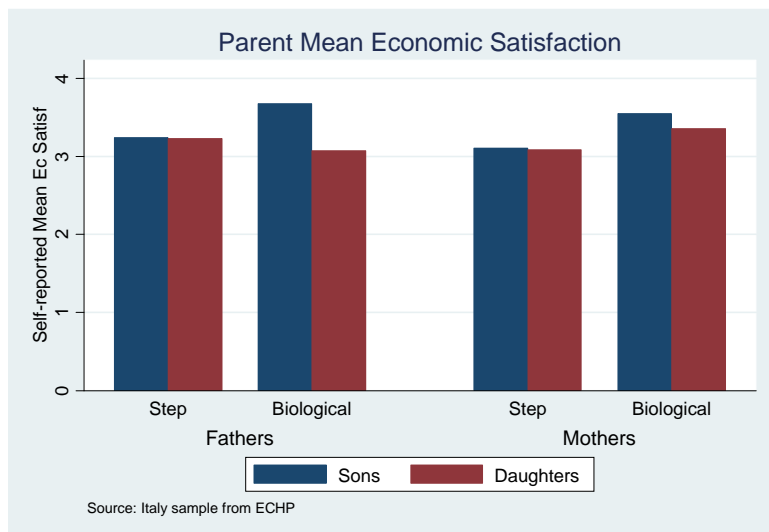
⁸ Purchasing Power Parity rates are used to convert household income (net of tax and post transfers) into a common indicator which allows us to compare the purchasing power of families across countries.

⁹ In subsequent analysis, we plan to decompose the measurement error between the child sharing the same biological parents and the one of being siblings whether they are biological or step but live in the same household. Literature has study twin samples (those that are monozygotic and share all genes and those that are dizygotic and just share half of them), some that reared together and some that grow up separately, in order to identify if correlations in self-reported subjective well-being are because of genes or because of sharing the same family background Bingley, Christensen and Walker (2005).

Figure 1. Father's and Mother's Mean Economic Satisfaction regarding Sons and Daughters







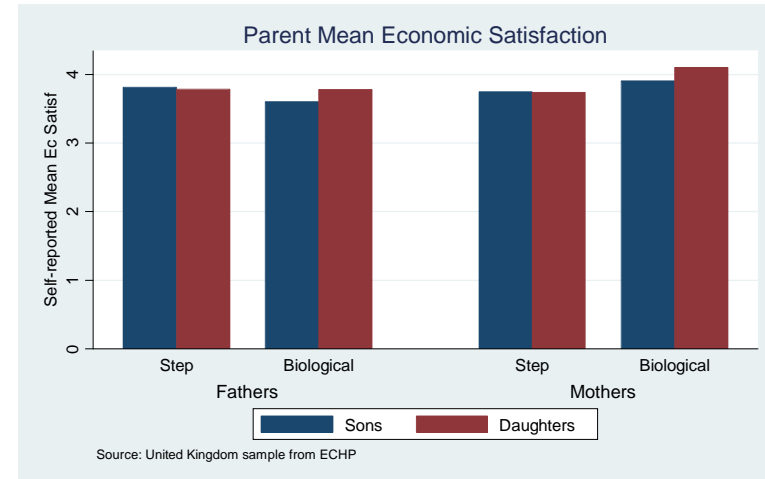
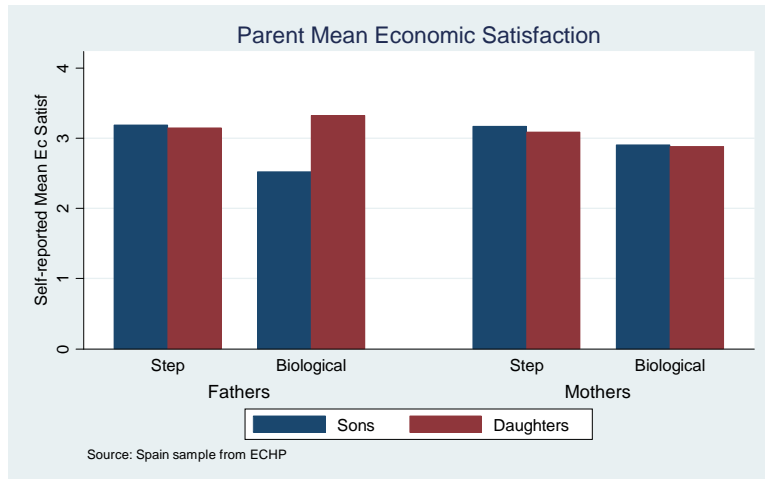
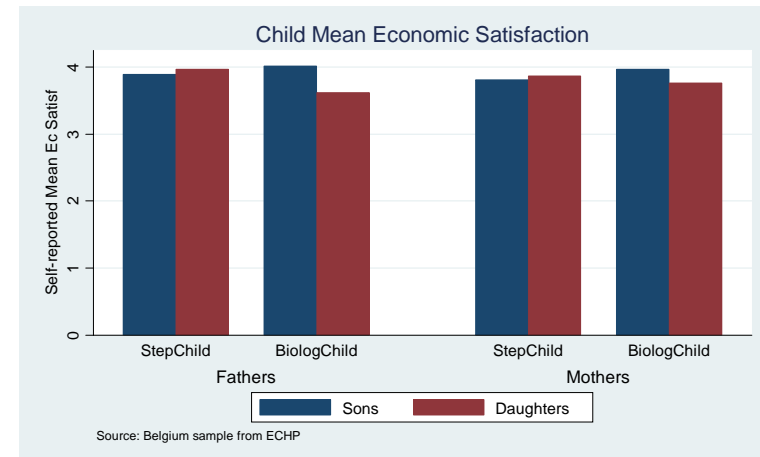
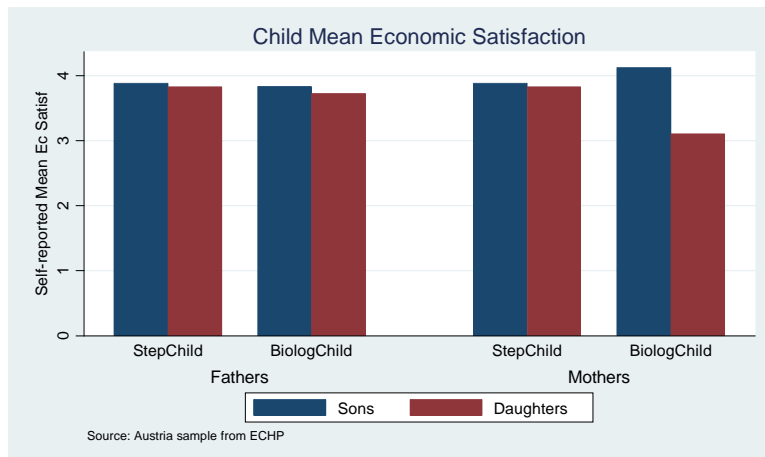
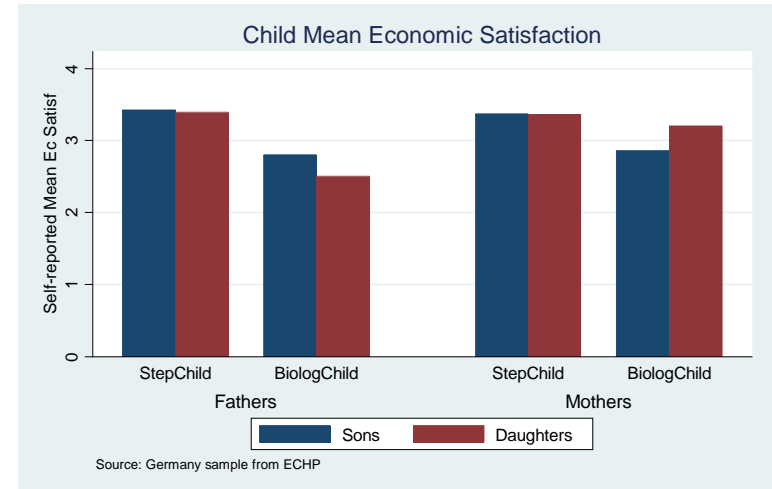
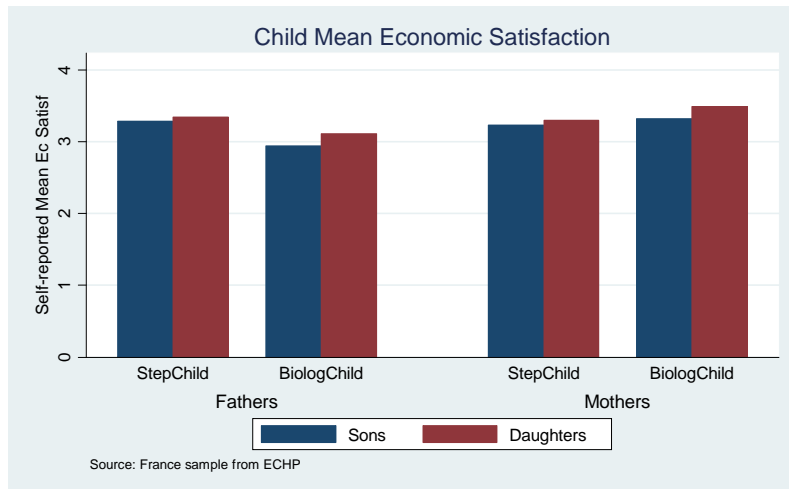
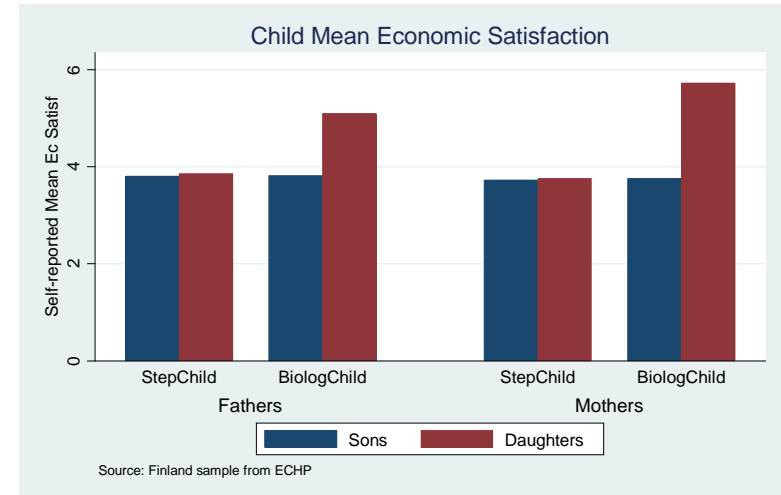
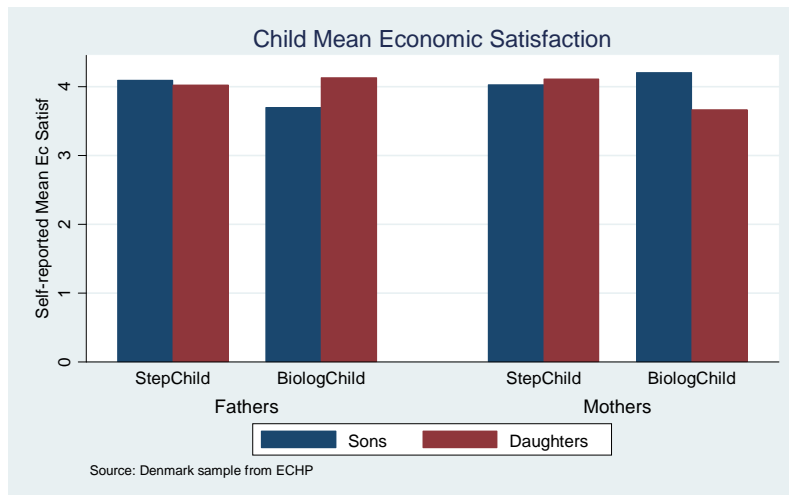
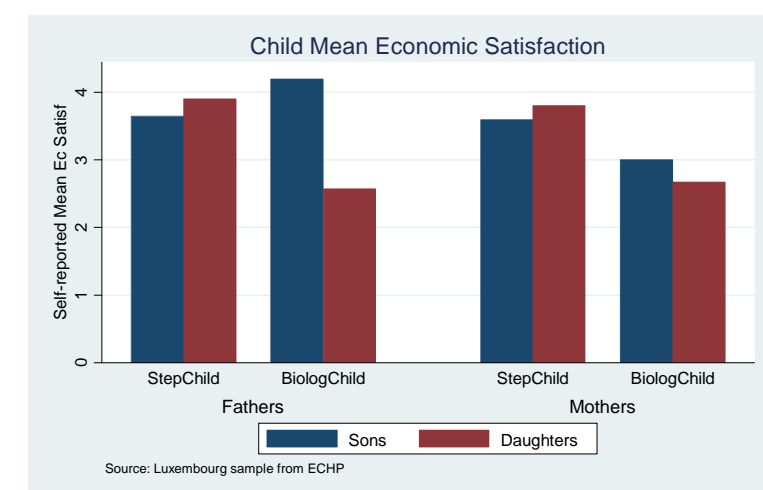
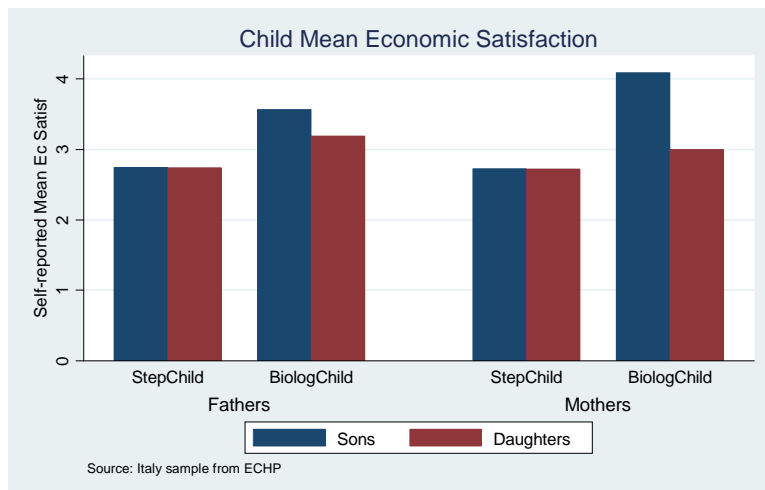
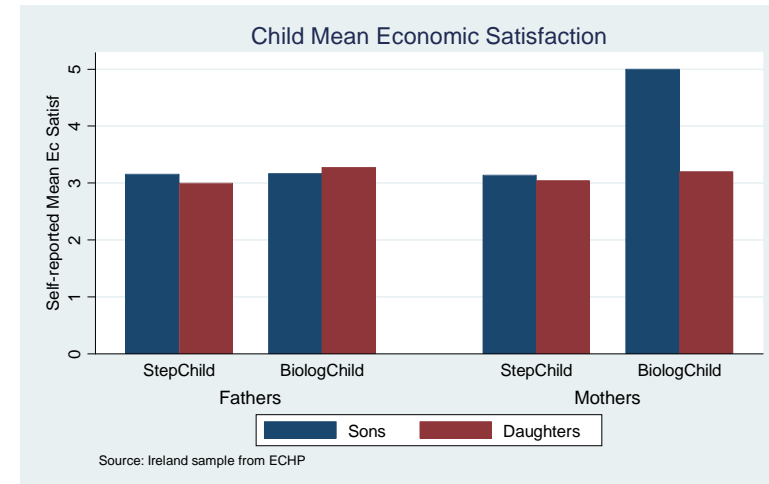
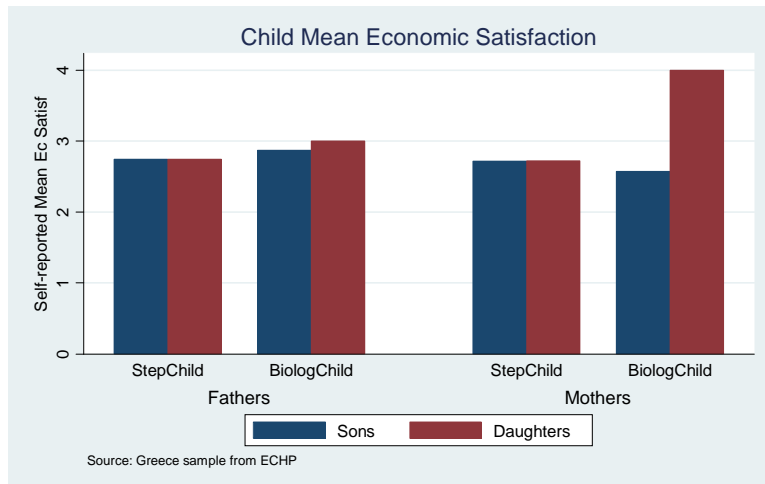
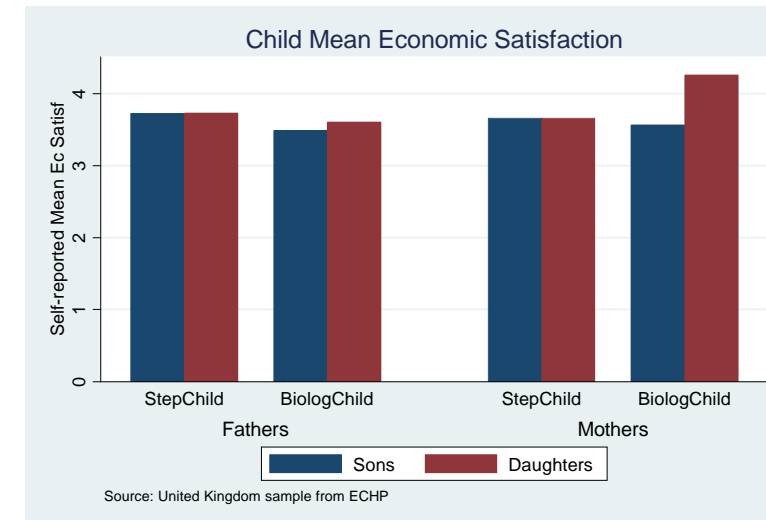
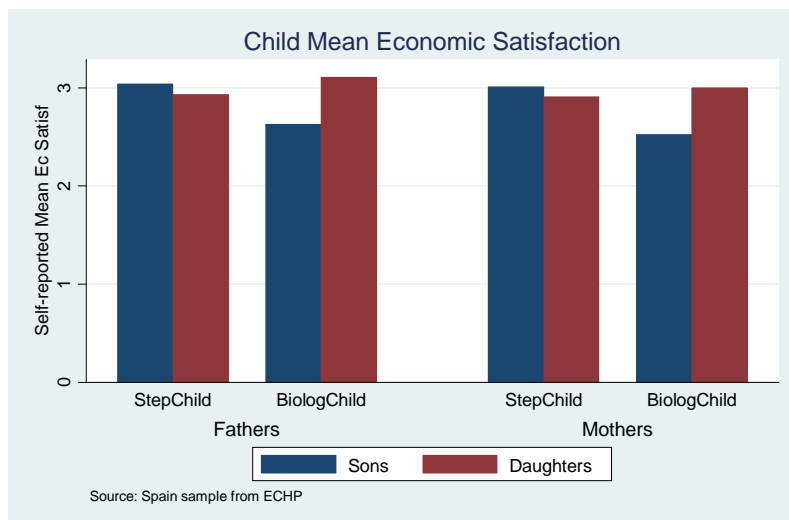
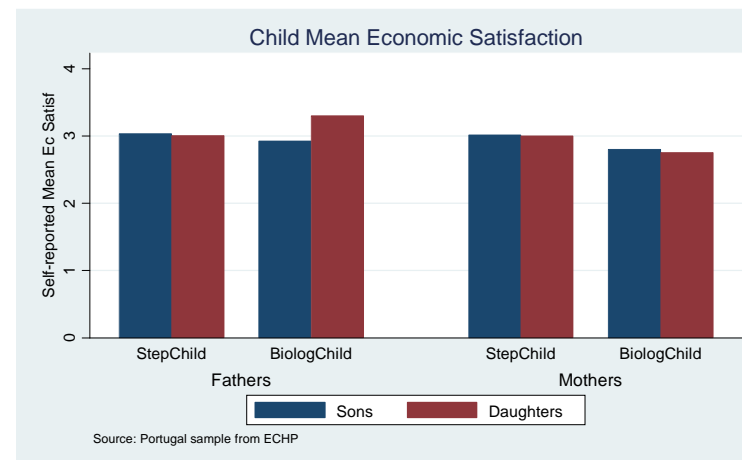
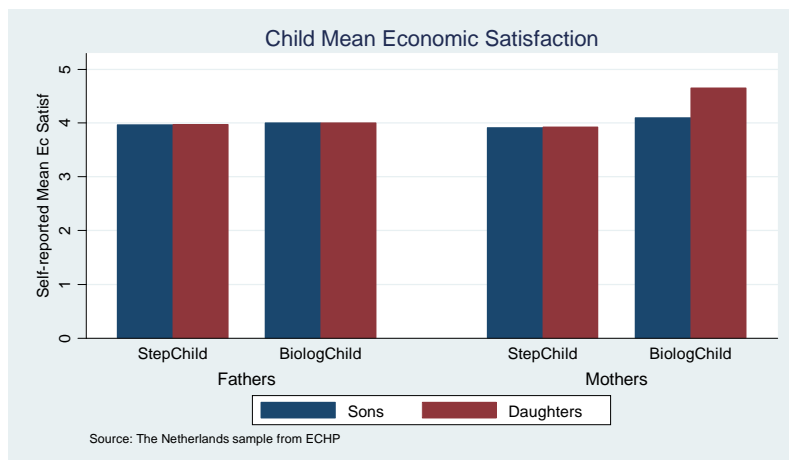


Figure 2. *Sons and Daughters Mean Economic Satisfaction*









stepmothers. When we consider biological mothers they record higher satisfaction levels in the sons sample than in the daughters one in Austria, Belgium, Germany, Ireland, Italy and Portugal.

When the child is a stepchild, income satisfaction levels of sons and daughters are almost the same in every sample country in both mother and father samples. Daughters record higher income satisfaction levels than sons in both fathers and mothers samples in Finland, France, Greece, the Netherlands, Spain and the United Kingdom, and the opposite in Austria, Belgium, Italy and Luxembourg.

The following six tables are the descriptive statistics (mean and standard deviation) for four samples - fathers with their sons, fathers with their daughters, mothers with their sons and mothers with their daughters – and a further two samples of fathers with more than one son and/or daughter, and mothers with more than one sons/daughter. In these latter two samples we use mixed (fixed and random effect) modelling that exploits siblings in a household, and siblings sharing same parents (which tells us biological, or “nature”, effects as opposed to the “nurture” effects of simply growing up in the same household).

The variables we list are income satisfaction declared by the parent (*Parent Inc Sat*), income satisfaction the child between 16 and 24 years living in the household declares (*Child Inc Sat*), the log family income in PPP in order to compare it across countries (*logrfam*), the percentage of households in the sample that experience an income shock (shock), as well as the percentage of married parents (*Parent married*), the percentage of employed parents in the sample (*Parent employed*), as well as the percentage of step parents in the sample (*Step*). We also are able to compare the satisfaction child between 16 and 24 recorded in the year they take the decision to leave home (*Child Sat Leaves home*) so that, next year, they are no longer in the sample, as well as the satisfaction recorded by the parent the year the child takes such a decision¹⁰ (*Parent Sat Child Leaves home*).

¹⁰ We can compare these last satisfactions with the mean of the satisfaction declared by the individuals whose children do not leave home and we find that it is only slightly smaller. Thus, there does not seem to be any pattern in satisfaction and it does not appear that less satisfied individuals are the ones that leave home. This suggests that there is no selection by observables in our samples and we show in subsequent estimation that our results do not appear to be sensitive to the age range of children that we consider which suggests that there is little selection by unobservables.

The number of observations *on children* between 16 and 24 years old living in the household are given in Table 1 broken down by type of household: both natural parents present, only natural father present, only natural mother present, natural mother with step-father, and natural father with step-mother.

Table 1 Sample sizes

	Both natural	Only father	Only mother	Step father	Step mother
Austria	4849	103	718	162	76
Belgium	3233	145	806	194	90
Denmark	1687	93	335	127	54
Finland	3137	176	557	143	54
France	7490	307	1388	510	162
Germany	9549	372	1246	172	33
Greece	9079	118	1007	23	2
Ireland	8185	318	1053	43	2
Italy	16033	259	1524	75	26
Luxembourg	3485	105	685	193	137
The Netherlands	4767	161	712	4	23
Portugal	10174	221	1837	193	95
Spain	15052	370	2182	147	47
United Kingdom	4670	361	1583	580	133

Tables 2a to 2f show us the mean and standard deviation (in parentheses) of some of the most interesting variables employed in the analysis. We can observe the income satisfaction the parent declares in mean as well as the income satisfaction of the child. We can compare them with satisfaction of both, parent and child, have the year the child takes the decision of leaving home, and next year he/she is not in the survey anymore. So we can see that there is no pattern in which kind of child (happy or unhappy) is leaving in every country being the latest variables slightly smaller but very similar. Then we have the mean of the family income in PPP in logarithms in order to be comparable between countries. As well as the percentage of households that experience an income shock, percentage of parents that are married, unemployed, step-parents, and in last column we find the number of observations in each country in the different samples.

Table 3 presents the breakdown of the samples by number of siblings (over 16 and still living in the parental home). Each household is recorded just once.

Table 2a *Fathers-Boys*

	Fathers-Boys											
	Parent Inc Sat	Child Inc Sat	logrfam	shock	Parent married	Parent employed	Step	N dif parents	N dif child	Parent Sat Child Leaves home	Child Sat Leaves home	N observac
Austria	4.13907 (1.350494)	3.876744 (1.479555)	12.70903 (.4444966)	.0093023 (.0960213)	.9762791 (.1522137)	.8130233 (.3899836)	.027907 (.1647447)	7.755814 (5.791266)	6.839535 (3.913302)	3.982332 (1.491003)	3.827957 (1.5475)	2150
Belgium	4.10785 (1.268952)	3.894351 (1.415974)	13.72214 (.4511274)	.0579604 (.2337543)	.9559795 (.2052161)	.8767425 (.3288532)	.0506236 (.2193084)	7.920029 (6.285445)	7.24945 (4.417392)	3.949367 (1.287805)	3.807692 (1.429827)	1363
Denmark	4.482419 (1.156446)	4.063291 (1.452609)	12.21398 (.3407504)	.1040788 (.3055777)	.8748242 (.3311511)	.9324895 (.2510807)	.068917 (.2534913)	5.936709 (5.043773)	5.74121 (3.751879)	4.56383 (1.189143)	4.011029 (1.402379)	711
Finland	3.896601 (1.323788)	3.807365 (1.351543)	11.72312 (.415312)	.092068 (.2893269)	.9320113 (.2519049)	.8654391 (.3414959)	.0226629 (.1489319)	5.521246 (5.112935)	4.729462 (2.873041)	3.848416 (1.21484)	3.618893 (1.353295)	706
France	3.411675 (1.293928)	3.268949 (1.404596)	11.77807 (.4902795)	.0204768 (.1416461)	.929401 (.256193)	.8300733 (.3756258)	.0589853 (.2356333)	8.169315 (6.638829)	6.870721 (4.253159)	3.329446 (1.299941)	3.084592 (1.444517)	3272
Germany	3.85 (1.212934)	3.406944 (1.405218)	10.63625 (.4708349)	.0263889 (.1604003)	.9736111 (.1604003)	.8986111 (.3020528)	.0208333 (.1429254)	3.527778 (2.324641)	3.455556 (1.694537)	3.751592 (1.264857)	3.293578 (1.380007)	720
Greece	3.063346 (1.177424)	2.745387 (1.166167)	14.79674 (.6856341)	.0147601 (.1206099)	.9892374 (.1031991)	.8084256 (.3936004)	.0119926 (.1088689)	8.244465 (6.001759)	7.706335 (4.504571)	3.132212 (1.257008)	2.778816 (1.163636)	3252
Ireland	3.56437 (1.445041)	3.155938 (1.455984)	9.618715 (.5491105)	.0126927 (.1119698)	.9537625 (.2100467)	.7719855 (.4196471)	.0081596 (.0899814)	12.17679 (10.6002)	6.68359 (4.197135)	3.525836 (1.506991)	3.082267 (1.468408)	2206
Italy	3.246234 (1.245003)	2.747853 (1.335424)	9.988468 (.7133528)	.0164719 (.1272905)	.9864846 (.1154757)	.744615 (.4361081)	.003942 (.0626659)	8.693932 (6.406978)	7.753907 (4.436412)	3.325123 (1.279665)	2.869852 (1.437773)	7103
Luxembourg	3.978022 (1.394369)	3.664835 (1.524306)	13.92944 (.4450383)	.0384615 (.1928382)	.9395604 (.2389568)	.8186813 (.3863448)	.0274725 (.1639067)	6.478022 (5.004645)	5.098901 (4.029052)	4.17284 (1.348982)	3.675 (1.438837)	182
The Netherlands	4.511123 (1.049749)	3.966374 (1.332585)	10.59873 (.4518167)	.0993275 (.2991786)	.9596482 (.1968338)	.8944646 (.3073216)	.0010347 (.0321578)	7.446974 (5.893544)	6.844801 (4.231123)	4.514066 (1.032389)	3.943445 (1.293078)	1933
Portugal	3.10744 (1.041306)	3.033917 (1.080249)	14.22528 (.6461143)	.0054705 (.073768)	.9553611 (.2065324)	.8245077 (.3804293)	.0175055 (.1311594)	9.41291 (8.028727)	7.573961 (4.423556)	2.981481 (1.061834)	3.025263 (1.10015)	4570
Spain	3.182927 (1.369795)	3.035302 (1.457813)	14.35942 (.7358269)	.0160462 (.1256633)	.972561 (.163372)	.7530488 (.4312727)	.0077022 (.0874305)	9.436297 (7.136749)	7.603338 (4.406365)	3.039555 (1.394266)	2.907692 (1.466508)	6232
United Kingdom	3.789086 (1.102365)	3.700098 (1.117552)	9.611551 (.4676433)	.0088496 (.0936779)	.9355949 (.2455336)	.8097345 (.3926071)	.107178 (.3094155)	6.866273 (5.487616)	6.141101 (4.105262)	3.654728 (1.235411)	3.436421 (1.277942)	2034

Table 2b *Fathers-Girls*

	Fathers-Girls											
	Parent Inc Sat	Child Inc Sat	logrfam	shock	Parent married	Parent employed	Step	N dif parents	N dif child	Parent Sat Child Leaves home	Child Sat Leaves home	N observac
Austria	3.982215 (1.449583)	3.825588 (1.509058)	12.6741 (.4170646)	.0131956 (.1141446)	.9546758 (.2080738)	.8605852 (.3464783)	.0246701 (.1551622)	8.421687 (6.097705)	6.572002 (3.832359)	3.977707 (1.448635)	3.865815 (1.42591)	1743
Belgium	4.232231 (1.224151)	3.947107 (1.40912)	13.72229 (.4892653)	.0471074 (.2119563)	.9239669 (.2651606)	.8884298 (.3149672)	.0495868 (.2171794)	8.482645 (6.378218)	7.057025 (4.3271)	3.770751 (1.343272)	3.73494 (1.39195)	1210
Denmark	4.572327 (1.100759)	4.02935 (1.46499)	12.2159 (.3259142)	.1027254 (.3039186)	.9056604 (.2926075)	.9706499 (.1689631)	.0796646 (.2710575)	6.440252 (5.51117)	5.557652 (3.792314)	4.577778 (1.137183)	3.921348 (1.567226)	477
Finland	4.077049 (1.219289)	3.898361 (1.424451)	11.75031 (.3684934)	.0836066 (.277024)	.9409836 (.2358488)	.895082 (.3066993)	.0344262 (.1824709)	5.280328 (4.714347)	4.567213 (3.017667)	3.895981 (1.238619)	3.526611 (1.348113)	610
France	3.467325 (1.26545)	3.331307 (1.404112)	11.74166 (.5039811)	.0193769 (.1378719)	.9300912 (.2550417)	.8457447 (.361262)	.043693 (.20445)	8.145897 (6.88848)	6.447188 (4.094506)	3.389946 (1.276201)	3.172222 (1.436967)	2632
Germany	3.867117 (1.182223)	3.376126 (1.464545)	10.61524 (.4476198)	.027027 (.1623451)	.9797297 (.1410823)	.8851351 (.3192185)	.018018 (.1331665)	3.668919 (2.396541)	3.443694 (1.664659)	3.819945 (1.230736)	3.433803 (1.360453)	444
Greece	3.098532 (1.184407)	2.748124 (1.190085)	14.80883 (.651334)	.0143556 (.1189713)	.9849918 (.1216048)	.8081566 (.3938148)	.0039152 (.0624589)	8.457749 (6.192642)	7.356933 (4.39356)	2.945607 (1.225674)	2.655012 (1.297861)	3065
Ireland	3.434642 (1.472169)	2.998924 (1.473482)	9.590851 (.5001476)	.0161377 (.126039)	.972028 (.164937)	.7595481 (.4274729)	.0080689 (.0894877)	11.82087 (10.03115)	6.866595 (4.170667)	3.57377 (1.506255)	3.125209 (1.514484)	1859
Italy	3.229299 (1.240849)	2.743359 (1.341712)	9.960589 (.6907605)	.016778 (.1284487)	.9853969 (.1199669)	.7778468 (.4157259)	.0066801 (.0814649)	8.931179 (6.686704)	7.649371 (4.405482)	3.104938 (1.272017)	2.759317 (1.369346)	6437
Luxembourg	4.209302 (1.377482)	3.848837 (1.50257)	13.98883 (.4404758)	.0290698 (.1684926)	.9302326 (.2554985)	.8139535 (.3902804)	.0406977 (.1981658)	6.290698 (4.683844)	5.69186 (4.425252)	4.323944 (1.105501)	3.873239 (1.351503)	172
The Netherlands	4.451929 (1.056864)	3.971877 (1.341492)	10.55109 (.4451428)	.0745585 (.2627636)	.9659908 (.181312)	.883584 (.320828)	.0026161 (.0510975)	7.419228 (5.546111)	6.59189 (4.113359)	4.508772 (1.014147)	3.929825 (1.358534)	1529
Portugal	3.148343 (1.049966)	3.006049 (1.07553)	14.20475 (.6713407)	.0076276 (.0870137)	.9673856 (.1776486)	.8250921 (.3799383)	.013151 (.1139361)	9.15939 (7.932188)	7.47475 (4.443456)	2.953947 (1.144536)	2.871397 (1.098019)	3802
Spain	3.144805 (1.34065)	2.933125 (1.476224)	14.32583 (.7624867)	.0162122 (.1263026)	.972734 (.1628726)	.7464996 (.4350549)	.0086588 (.0926575)	9.505895 (7.36411)	7.421518 (4.377514)	2.997305 (1.402713)	2.907734 (1.437902)	5428
United Kingdom	3.786314 (1.045561)	3.717883 (1.080038)	9.62765 (.4470051)	.0083925 (.0912549)	.9367334 (.2435205)	.8573273 (.3498517)	.0903809 (.2868193)	6.868948 (5.573238)	6.309232 (4.180278)	3.653226 (1.21942)	3.54591 (1.262057)	1549

Table 2c Mothers-Boys

Mothers-Boys												
	Parent Inc Sat	Child Inc Sat	logrfam	shock	Parent married	Parent employed	Step	N dif parents	N dif child	Parent Sat Child Leaves home	Child Sat Leaves home	N observac
Austria	4.073559 (1.412877)	3.88394 (1.489544)	12.6682 (.4632434)	.0102166 (.1005801)	.8720883 (.3340598)	.5835717 (.4930671)	.0130772 (.1136288)	7.768696 (5.953248)	6.254597 (3.783511)	4.041401 (1.44158)	3.729904 (1.542214)	2447
Belgium	3.998784 (1.381138)	3.810334 (1.452162)	13.63989 (.4862752)	.0595745 (.2367687)	.8322188 (.3737855)	.5671733 (.4956179)	.0200608 (.1402509)	7.993921 (6.213944)	6.356231 (4.150693)	3.853282 (1.370261)	3.764706 (1.487325)	1645
Denmark	4.420779 (1.286959)	4.035065 (1.463937)	12.17261 (.3564063)	.1 (.300195)	.8168831 (.3870137)	.825974 (.3793782)	.0311688 (.1738868)	5.727273 (5.030302)	5.309091 (3.613376)	4.586626 (1.261268)	3.959248 (1.428011)	770
Finland	3.824341 (1.251837)	3.718946 (1.372305)	11.70202 (.408751)	.0853199 (.2795326)	.8720201 (.3342772)	.8230866 (.381835)	.0050188 (.07071)	5.31995 (4.826567)	4.695107 (2.942692)	3.813953 (1.295354)	3.58567 (1.371466)	797
France	3.363272 (1.312559)	3.231489 (1.403732)	11.71392 (.5244034)	.0197808 (.1392649)	.8251804 (.3798635)	.5864742 (.4925313)	.0133654 (.114849)	8.16787 (6.685537)	6.167335 (4.048742)	3.278976 (1.354381)	3.084507 (1.432511)	3741
Germany	3.767949 (1.297276)	3.369231 (1.415874)	10.57415 (.5382163)	.025641 (.1581633)	.9038462 (.2949913)	.5230769 (.4997877)	.0089744 (.0943676)	3.416667 (2.317978)	3.192308 (1.674069)	3.728745 (1.281521)	3.253247 (1.399853)	780
Greece	2.934595 (1.172916)	2.71695 (1.175466)	14.77477 (.6807767)	.0147509 (.120571)	.9059282 (.2919692)	.4430838 (.4968191)	.0058447 (.0762375)	8.31784 (6.232571)	7.104926 (4.348138)	2.995495 (1.255229)	2.774854 (1.163552)	3593
Ireland	3.591743 (1.468338)	3.135703 (1.449576)	9.586798 (.5669378)	.0172018 (.1300477)	.8987003 (.3017828)	.286315 (.4521248)	.0007645 (.0276448)	12.32301 (10.38597)	6.359327 (4.160188)	3.516432 (1.578636)	3.029752 (1.469032)	2616
Italy	3.107414 (1.258427)	2.729631 (1.337756)	9.960424 (.7301615)	.0159811 (.1254105)	.9236311 (.2656048)	.3661252 (.4817758)	.0014409 (.0379346)	8.740634 (6.519845)	7.111868 (4.371826)	3.256803 (1.276323)	2.894378 (1.409046)	7634
Luxembourg	4.067358 (1.384671)	3.595855 (1.562044)	13.95439 (.4394548)	.0518135 (.2222267)	.8756477 (.3308413)	.4715026 (.5004855)	.0051813 (.0719816)	6.580311 (5.777563)	5.160622 (4.0569)	4.116279 (1.366994)	3.6 (1.45733)	193
The Netherlands	4.457317 (1.153843)	3.912758 (1.341286)	10.54449 (.4897911)	.0989681 (.2986892)	.8935272 (.3085142)	.4305816 (.4952738)	.0046904 (.0683419)	7.257974 (5.658269)	6.185272 (4.121217)	4.513761 (1.14963)	3.95843 (1.304596)	2132
Portugal	2.924813 (1.081378)	3.014739 (1.086125)	14.18669 (.6537288)	.0059701 (.0770429)	.8367537 (.3696247)	.5169776 (.4997583)	.0111194 (.1052178)	9.709888 (8.438906)	6.772388 (4.23719)	2.797642 (1.023501)	2.955466 (1.076223)	5360
Spain	3.168502 (1.358147)	3.005293 (1.455629)	14.33413 (.7394461)	.0155915 (.1238974)	.8862824 (.3174907)	.2933772 (.4553424)	.0030039 (.054729)	9.544414 (7.408922)	6.935918 (4.324785)	2.970183 (1.370186)	2.883354 (1.436745)	6991
United Kingdom	3.749497 (1.098711)	3.657672 (1.1271)	9.543837 (.5361203)	.0084575 (.0915935)	.8296416 (.3760231)	.6612968 (.4733641)	.0128876 (.1128125)	7.102296 (5.797413)	5.976641 (4.073788)	3.715486 (1.274552)	3.449591 (1.276097)	2483

Table 2d Mothers-Girls

	Mothers-girls											
	Parent Inc Sat	Child Inc Sat	logrfam	shock	Parent married	Parent employed	Step	N dif parents	N dif child	Parent Sat Child Leaves home	Child Sat Leaves home	N observac
Austria	3.937989 (1.515925)	3.819177 (1.499436)	12.63019 (.4471194)	.0140698 (.1178096)	.880667 (.3242644)	.5992705 (.490174)	.009901 (.0990357)	8.290776 (6.074003)	6.133403 (3.836997)	3.985795 (1.464615)	3.811966 (1.42186)	1919
Belgium	3.957346 (1.378875)	3.859851 (1.398312)	13.62171 (.5397766)	.0487475 (.2154125)	.8111036 (.3915589)	.6086662 (.4882141)	.0257278 (.1583758)	8.404198 (6.318859)	6.303318 (3.996282)	3.754386 (1.410233)	3.679715 (1.392806)	1477
Denmark	4.567568 (1.12103)	4.102703 (1.421309)	12.14875 (.3573522)	.1081081 (.310797)	.790991 (.4069676)	.8540541 (.3533705)	.0162162 (.1264201)	6.27027 (5.237924)	5.010811 (3.512724)	4.429022 (1.267477)	3.964968 (1.519432)	555
Finland	4.022069 (1.212075)	3.772414 (1.431419)	11.68766 (.4030275)	.0937931 (.2917419)	.8634483 (.3436105)	.8096552 (.3928442)	.0096552 (.0978527)	5.096552 (4.724925)	4.255172 (2.759662)	3.8921 (1.325396)	3.485934 (1.384597)	725
France	3.39155 (1.276453)	3.302395 (1.408569)	11.69376 (.5228287)	.0186294 (.1352347)	.8263473 (.3788736)	.5755156 (.4943467)	.0163007 (.1266505)	8.388556 (7.54748)	5.902528 (3.926125)	3.340219 (1.327575)	3.136421 (1.459619)	3006
Germany	3.739044 (1.297022)	3.360558 (1.447511)	10.55872 (.4897381)	.0239044 (.1529037)	.8864542 (.3175753)	.5916335 (.4920219)	.0099602 (.0994014)	3.38247 (2.301855)	3.298805 (1.68898)	3.671533 (1.29413)	3.3675 (1.386452)	502
Greece	2.990605 (1.145469)	2.724604 (1.197118)	14.77214 (.6652426)	.0149736 (.1214648)	.8990018 (.3013706)	.4233705 (.4941656)	.0002936 (.0171347)	8.394891 (6.123302)	6.816207 (4.347631)	2.880903 (1.209609)	2.650463 (1.296273)	3406
Ireland	3.519116 (1.524365)	3.041206 (1.493007)	9.558673 (.5287386)	.0191164 (.1369632)	.9056924 (.2923182)	.2727273 (.4454564)	.002124 (.0460482)	11.95455 (10.2025)	6.326253 (4.136198)	3.535671 (1.521317)	3.141123 (1.522813)	2354
Italy	3.086957 (1.279828)	2.720907 (1.345687)	9.929646 (.7055602)	.0166451 (.127947)	.921653 (.2687361)	.3788205 (.4851281)	.0020089 (.0447789)	8.928971 (6.702638)	7.0871 (4.370212)	2.998534 (1.283007)	2.75 (1.369915)	6969
Luxembourg	4.094444 (1.467325)	3.772222 (1.545693)	13.96722 (.4690623)	.0333333 (.1800062)	.8722222 (.3347734)	.5333333 (.5002793)	.0333333 (.1800062)	6.333333 (5.53001)	5.177778 (4.085887)	4.051948 (1.32681)	3.779221 (1.353586)	180
The Netherlands	4.41431 (1.168911)	3.935949 (1.354978)	10.49066 (.4782658)	.0761685 (.2653441)	.8944028 (.3074101)	.440854 (.4966327)	.0132718 (.1144692)	7.263705 (5.521974)	5.964801 (4.01375)	4.434363 (1.120642)	3.917148 (1.360954)	1733
Portugal	2.998863 (1.07073)	2.994998 (1.091232)	14.17371 (.6820019)	.0081855 (.0901132)	.8556162 (.3515185)	.5682128 (.4953815)	.005457 (.0736782)	9.126648 (7.716881)	6.849022 (4.263489)	2.814371 (1.100669)	2.862069 (1.086335)	4398
Spain	3.081436 (1.362631)	2.906541 (1.470599)	14.28586 (.7717986)	.0165117 (.1274428)	.8720744 (.3340337)	.3076307 (.4615498)	.0027252 (.0521368)	9.463129 (7.307105)	6.775729 (4.271551)	2.979493 (1.365841)	2.863184 (1.426903)	6238
United Kingdom	3.743461 (1.098373)	3.673541 (1.105672)	9.51748 (.5159351)	.0085513 (.0921002)	.8138833 (.3892987)	.6544266 (.4756745)	.0191147 (.1369626)	7.25503 (5.853251)	5.764085 (4.083327)	3.708115 (1.237207)	3.479663 (1.278581)	1988

Table 2e *Fathers with more than one child*

	Fathers											
	Parent Inc Sat	Child Inc Sat	logrfam	shock	Parent married	Parent employed	Step	N dif parents	N dif child	Parent Sat Child Leaves home	Child Sat Leaves home	N observac
Austria	4.068842 (1.397725)	3.85384 (1.49286)	12.69339 (.4327239)	.0110455 (.1045288)	.9666067 (.1796843)	.834318 (.3718427)	.0264577 (.1605128)	8.053943 (5.938895)	6.719753 (3.8790570)	3.979899 (1.467637)	3.847973 (1.483307)	3893
Belgium	4.166343 (1.249386)	3.919161 (1.412726)	13.72221 (.4693564)	.0528566 (.2237906)	.940925 (.2358109)	.8822386 (.322388)	.050136 (.218268)	8.184609 (6.33424)	7.158958 (4.375369)	3.857143 (1.318424)	3.770186 (1.409431)	2573
Denmark	4.518519 (1.134803)	4.049663 (1.457072)	12.21475 (.3347351)	.1035354 (.3047851)	.8872054 (.3164748)	.9478114 (.2225007)	.0732323 (.2606272)	6.138889 (5.239993)	5.667508 (3.767648)	4.570652 (1.162984)	3.966605 (1.485618)	1188
Finland	3.980243 (1.279106)	3.849544 (1.386027)	11.73572 (.3943883)	.0881459 (.2836147)	.9361702 (.2445424)	.8791793 (.3260427)	.0281155 (.1653657)	5.409574 (4.931796)	4.654255 (2.940951)	3.871676 (1.226046)	3.569277 (1.350277)	1316
France	3.436484 (1.281502)	3.296748 (1.404604)	11.76184 (.4967219)	.0199864 (.1399654)	.9297087 (.255659)	.8370596 (.3693425)	.052168 (.2223846)	8.158875 (6.750697)	6.681911 (4.188119)	3.360759 (1.28761)	3.130246 (1.440733)	5904
Germany	3.856529 (1.200831)	3.395189 (1.427591)	10.62823 (.4620361)	.0266323 (.1610755)	.975945 (.1532858)	.8934708 (.3086464)	.0197595 (.1392324)	3.581615 (2.3523)	3.451031 (1.682495)	3.78125 (1.24988)	3.356511 (1.372176)	1164
Greece	3.080418 (1.180855)	2.746715 (1.17774)	14.80261 (.6691858)	.0145639 (.1198084)	.9871775 (.1125172)	.8082951 (.3936733)	.0080735 (.089496)	8.34795 (6.095571)	7.536805 (4.454127)	3.032438 (1.243149)	2.708 (1.242898)	6317
Ireland	3.505043 (1.458763)	3.084133 (1.465921)	9.605972 (.5274022)	.0142681 (.1186087)	.9621156 (.1909401)	.7662977 (.4232371)	.0081181 (.089745)	12.01402 (10.34411)	6.767282 (4.18553)	3.550038 (1.506243)	3.104712 (1.492173)	4065
Italy	3.238183 (1.243013)	2.745716 (1.338369)	9.975214 (.7028149)	.0166174 (.1278378)	.9859675 (.1176291)	.7604136 (.4268468)	.0052437 (.0722261)	8.806721 (6.542284)	7.70421 (4.42188)	3.211615 (1.279963)	2.81295 (1.40349)	13540
Luxembourg	4.090395 (1.389058)	3.754237 (1.514443)	13.9583 (.4431981)	.0338983 (.1812236)	.9350282 (.2468249)	.8163842 (.3877186)	.0338983 (.1812236)	6.387006 (4.845482)	5.387006 (4.230598)	4.243421 (1.239508)	3.768212 (1.397348)	354
The Netherlands	4.48498 (1.053155)	3.968804 (1.336336)	10.57769 (.4494399)	.0883882 (.2838997)	.9624495 (.190134)	.8896592 (.3133594)	.0017331 (.0416005)	7.43472 (5.74189)	6.733102 (4.180809)	4.511216 (1.022006)	3.936095 (1.328038)	3462
Portugal	3.126015 (1.045384)	3.021261 (1.078134)	14.21595 (.6577303)	.0064501 (.0800577)	.9608218 (.1940304)	.8247731 (.3801838)	.015528 (.1236473)	9.297778 (7.985552)	7.528906 (4.432614)	2.968153 (1.10214)	2.950324 (1.101211)	8372
Spain	3.16518 (1.356381)	2.987736 (1.467235)	14.34378 (.7485112)	.0161235 (.1259559)	.9726415 (.1631327)	.75 (.4330313)	.0081475 (.089899)	9.468696 (7.24325)	7.518696 (4.393706)	3.019342 (1.398022)	2.907713 (1.452202)	11660
United Kingdom	3.787887 (1.078027)	3.707787 (1.101374)	9.618511 (.458841)	.008652 (.0926256)	.9360871 (.2446319)	.8303098 (.3754128)	.0999163 (.2999302)	6.86743 (5.524021)	6.213787 (4.138118)	3.654021 (1.227449)	3.489482 (1.270934)	3583

Table 2f Mothers with more than one child

	Mothers											
	Parent Inc Sat	Child Inc Sat	logrfam	shock	Parent married	Parent employed	Step	N dif parents	N dif child	Parent Sat Child Leaves home	Child Sat Leaves home	N observac
Austria	4.013972 (1.460448)	3.855474 (1.494074)	12.65149 (.4565648)	.0119102 (.1084945)	.8758589 (.3297802)	.5904718 (.4918031)	.0116812 (.1074587)	7.998168 (6.011520)	6.201328 (3.80715)	4.012012 (1.452974)	3.773414 (1.479058)	4366
Belgium	3.97918 (1.380002)	3.83376 (1.426926)	13.63129 (.5122807)	.0544523 (.2269443)	.8222293 (.3823808)	.5868033 (.4924864)	.0227418 (.1491032)	8.18802 (6.266142)	6.331198 (4.077806)	3.801471 (1.390946)	3.720149 (1.437822)	3122
Denmark	4.482264 (1.221915)	4.063396 (1.446079)	12.16261 (.3568622)	.1033962 (.3045907)	.8060377 (.395549)	.8377358 (.3688322)	.0249057 (.1558965)	5.954717 (5.123349)	5.184151 (3.573259)	4.509288 (1.265796)	3.962085 (1.472904)	1325
Finland	3.918528 (1.236604)	3.744415 (1.400568)	11.69518 (.4059648)	.0893561 (.2853508)	.8679369 (.3386706)	.8166886 (.3870488)	.0072273 (.0847338)	5.213535 (4.778156)	4.485545 (2.86448)	3.85314 (1.310454)	3.530899 (1.378619)	1522
France	3.375871 (1.296578)	3.26308 (1.406227)	11.70494 (.5237595)	.0192678 (.137475)	.8257003 (.3793951)	.5815918 (.4933344)	.0146732 (.1202499)	8.266192 (7.082839)	6.049355 (3.996451)	3.311182 (1.340271)	3.111995 (1.446681)	6747
Germany	3.75663 (1.296747)	3.365835 (1.427789)	10.56811 (.5196321)	.024961 (.1560671)	.8970359 (.3040306)	.549922 (.4976957)	.0093604 (.0963327)	3.403276 (2.310838)	3.234009 (1.68007)	3.702762 (1.286865)	3.306265 (1.394008)	1282
Greece	2.961852 (1.159896)	2.720674 (1.185973)	14.77349 (.6732152)	.0148593 (.1209982)	.9025575 (.2965805)	.4334905 (.4955921)	.0031433 (.055981)	8.355336 (6.179316)	6.964423 (4.349975)	2.935553 (1.232243)	2.705426 (1.240142)	6999
Ireland	3.557344 (1.495425)	3.090946 (1.470916)	9.573477 (.5493011)	.0181087 (.1333578)	.9020121 (.2973282)	.2798793 (.4489849)	.0014085 (.0375067)	12.14849 (10.30009)	6.343662 (4.148458)	3.525908 (1.550236)	3.087816 (1.497756)	4970
Italy	3.097651 (1.268683)	2.725467 (1.341508)	9.945736 (.718666)	.016298 (.1266234)	.9226871 (.2670964)	.3721838 (.4834036)	.001712 (.041342)	8.830514 (6.608153)	7.100048 (4.370924)	3.11811 (1.285882)	2.817102 (1.389555)	14603
Luxembourg	4.080429 (1.423296)	3.680965 (1.554593)	13.96058 (.4534159)	.0428954 (.2028935)	.8739946 (.3323011)	.5013405 (.5006698)	.0187668 (.1358825)	6.461126 (5.653215)	5.168901 (4.065446)	4.08589 (1.344393)	3.685185 (1.407488)	373
The Netherlands	4.438034 (1.16067)	3.923157 (1.347317)	10.52035 (.485334)	.0887451 (.2844123)	.8939198 (.3079801)	.4351876 (.4958457)	.0085382 (.0920188)	7.260543 (5.596847)	6.086417 (4.074333)	4.47065 (1.134075)	3.935924 (1.335077)	3865
Portugal	2.958188 (1.077167)	3.005841 (1.088418)	14.18084 (.666617)	.0069686 (.0831913)	.8452552 (.3616798)	.5400697 (.4984174)	.0086083 (.0923856)	9.447018 (8.126209)	6.806928 (4.249016)	2.805941 (1.061986)	2.908815 (1.081747)	9758
Spain	3.127447 (1.360906)	2.958727 (1.463482)	14.31137 (.7552302)	.0160254 (.1255778)	.8795827 (.3254611)	.3000983 (.4583178)	.0028725 (.0535205)	9.506085 (7.360921)	6.860382 (4.300346)	2.974721 (1.367676)	2.873387 (1.431485)	13229
United Kingdom	3.746813 (1.098442)	3.664728 (1.117526)	9.532118 (.5273447)	.0084992 (.0918089)	.8226348 (.3820202)	.658242 (.474352)	.0156565 (.1241563)	7.170208 (5.822149)	5.882129 (4.078944)	3.71196 (1.256437)	3.464409 (1.276968)	4471

Table 3 *Sample breakdowns by number of siblings*

Number of siblings	Austria		Belgium		Denmark		Finland		France		Germany		Greece	
	households	%	households	%	households	%	households	%	households	%	households	%	households	%
1	754	34.79	818	37.80	676	38.19	990	37.49	1,663	38.08	2,855	43.44	1,279	33.19
2	790	36.46	859	39.70	722	40.79	987	37.37	1,684	38.56	2,596	39.49	1,695	43.99
3	397	18.32	355	16.40	271	15.31	461	17.46	694	15.89	789	12.00	607	15.75
4	144	6.65	96	4.44	70	3.95	142	5.38	222	5.08	216	3.29	211	5.48
5	48	2.22	17	0.79	27	1.53	39	1.48	58	1.33	76	1.16	47	1.22
6	20	0.92	13	0.60	4	0.23	13	0.49	29	0.66	21	0.32	10	0.26
7	6	0.28	3	0.14					9	0.21	12	0.18	4	0.10
8	2	0.09	3	0.14			2	0.08	5	0.11	3	0.05		
9	4	0.18					3	0.11	1	0.02	3	0.05		
10	2	0.09							1	0.02	1	0.02		
11							2	0.08			1	0.02		
12							1	0.04						
13							1	0.04						
14														
15									1	0.02				
Number of siblings	Ireland		Italy		Luxembourg		The Netherlands		Portugal		Spain		United Kingdom	
	households	%	households	%	households	%	households	%	households	%	households	%	households	%
1	725	23.56	2,298	38.43	858	35.71	1,100	30.80	1,496	38.70	1,874	32.88	2,137	37.64
2	871	28.31	2,400	40.14	879	36.58	1,679	47.02	1,395	36.08	2,185	38.33	2,221	39.12
3	702	22.81	906	15.15	447	18.60	605	16.94	536	13.86	1,050	18.42	925	16.29
4	412	13.39	275	4.60	154	6.41	145	4.06	244	6.31	378	6.63	249	4.39
5	190	6.17	62	1.04	43	1.79	32	0.90	105	2.72	112	1.96	89	1.57
6	104	3.38	22	0.37	19	0.79	7	0.20	43	1.11	61	1.07	27	0.48
7	30	0.97	12	0.20	1	0.04			18	0.47	23	0.40	18	0.32
8	20	0.65	2	0.03	2	0.08	1	0.03	13	0.34	10	0.18	8	0.14
9	16	0.52					2	0.06	7	0.18	3	0.05	2	0.04
10	4	0.13	1	0.02					5	0.13	2	0.04	1	0.02
11	1	0.03							3	0.08	1	0.02		
12	1	0.03							1	0.03				
13	1	0.03									1	0.02		
14			1	0.02										

3 Methodology

Theoretical model

In order to model the altruistic links between parents and their children, we follow the basic approach initially stated by Becker (1991), and subsequently developed by Schwarze (2004) and Schwarze and Winkelmann (2005). Let $W(\cdot)$ denote parental utility, where we assume that the parent is altruistic, whilst the child c is egoistic and that this welfare function is additively separable so that:

$$W = W(q^p, q^c) = U(q^p) + \eta V(q^c).$$

Below we will distinguish $p = m, f$ to indicate whether the parent is the father (adult male) or the mother (adult female) and we will distinguish $c = s, d$ to indicate if the child is a son or a daughter

Following Chiappori (1988) it is now well known that cooperative behaviour within the household implies that household members pool their incomes and will, in general, satisfy the Pareto optimality conditions. Thus, we would expect optimising altruistic parents to set $\lambda_i^p = -\eta \lambda_i^c$ where λ is the marginal utility of consumption, and p indicates parents and c indicates child. Thus, direct data on λ should allow this relationship to be estimated and so reveal an estimate of η and hence test the hypothesis that $\eta = 0$ (egoism) against the alternative $\eta > 0$ (altruism). This hypothesis can be tested directly without observing consumption data, on the assumption that survey responses to the question about subjective income satisfaction are direct measures for marginal utilities.

Empirical Models

Note that estimating this equilibrium relationship will reveal the degree of altruism and no issue of endogeneity arises – this is simply an equilibrium relationship. However, we would expect to improve the precision of the estimates if we include other variables to control for heterogeneity in preferences that may be correlated across parents and children. Thus, we add $x_i\beta$ to control for socio-economic characteristics (household income, size and composition, as well as education level and employment status of the parent) in order to proxy the parent consumption.

We also would estimate panel models with individual specific effects to address the problem of omitted variables (unobserved variation in parental consumption that is not in $x_i\beta$ but is correlated with the child's consumption). That is we would like to estimate

$$\lambda_i^p = x_i\beta + \eta\lambda_i^c + \alpha_i + e_i$$

Our data is discrete and we therefore estimate ordered probit models. Moreover, we exploit the panel nature of the data to estimate fixed effect models. Finally, we estimate a mixed (FE and RE) model that exploits the presence of siblings in the data¹¹.

The random effects ordered probit model (see Appendix 1) is written as

$$y_{it}^{p*} = x_{1it}^p\beta_1 + x_{2it}^p\beta_2 + x_{it}^c\beta_3 + \eta y_{it}^{c*} + \alpha_i + e_{it}$$

where y_{it}^{p*} is the latent realisation of the marginal utility of income (subjective income satisfaction) of the parent, i . Subjective satisfaction is explained by a vector of individual characteristics, x_{it}^p , which includes parental income x_{2it}^p , characteristics of the child, x_{it}^c , which includes his/her income, as well as the son's/daughter's own income satisfaction.

The parametric ordered probit model with multiple random effects (see Appendix) is given by

$$y_{ijht}^{p*} = x_{1ijht}^p\beta_1 + x_{2ijht}^p\beta_2 + x_{ijht}^c\beta_3 + \eta y_{ijht}^{c*} + a_h + b_{jh} + c_{ijh} + e_{ijht}$$

When there is more than one child in the household that is more than 16 years old, sibling's satisfaction is interrelated - for genetic reasons or because of the same family background. We decompose the long-term correlation into a part that is shared between members of the same household (siblings) and a part that is specific to the child (the individual effect). The household effect measures the correlation in long-run well-being between siblings/children of the same household. These correlations can be identified, as long as we have a panel and repeated measurements are available for different siblings of the same family. Another level would be that the long-term

¹¹ We use the GLAMM add-on to STATA 9.

correlation indeed is related to biological factors and not just to living together and is why we introduce the effect of sharing the same biological parents between siblings.

4. Results

Tables 1.A to 9.B show the results of estimating the income satisfaction of fathers and mothers regarding their son's and their daughter's economic satisfaction. We estimate Random Effects Ordered Probit Models¹², as employed in Schwarze (2004). Each column of these tables represent specifications with increasing number of control variables and, in general, the results indicate that the coefficients are stable. In Tables 1.A and 1.B we present the estimates of how the income satisfaction of the child is correlated with that of the fathers/mothers. The coefficients are highly significant, positive and stable for both when the child is a boy and a girl. We can conclude that the estimated altruism parameter is positive and statistically significant. In Greece, Portugal, Italy and Luxembourg this effect seems large while fathers from Austria, Denmark, Finland and the United Kingdom appear to value the well being of their daughters than their sons.

In Table 3 we report the effects of income. In every country, both fathers and mothers appear to be sensitive to income. The effects of log family income in both the fathers' and mothers' income satisfactions are highly and significantly positive in every country. The effect of log family income interacted with the variable step child is positive in the sample of Greece and the Netherlands fathers with a boy and negative in Italy and Luxembourg. While it is positive in Ireland in the sample of fathers with a girl. We find a positive effect in the sample of mothers with a boy in Portugal and Spain but a negative effect in Germany. Tables 5.A and 5.B show us how an income shock in the household increases fathers-son satisfaction in Belgium, Denmark, the Netherlands and Spain and fathers-daughter satisfaction in Ireland. Mothers that have a son experience an increase in her income satisfaction in Denmark, Greece, Portugal and the United Kingdom. When we consider the sample of mothers with a daughter, her income satisfaction is increasing in Belgium, Italy, Spain and the United Kingdom. Mothers seem to be much more sensitive than fathers to income shocks in the family which is consistent with qualitative research that suggests that mothers provide insurance against

¹² The model is estimated using STATA 9.1 and the module "REOPROB" written by Guillaume R. Frechette (see www.econ.Ohio-state.edu/frechette/html/econ.htm).

shocks in the household. Whether the mother is married affects her income satisfaction positively in almost all countries for both the sons and daughters samples. While father income satisfaction seems to depend on civil status in somewhat fewer countries. Larger family size implies less income satisfaction for both fathers and mothers in most countries while when the household owns the house they live in affects fathers and mothers income satisfaction positively in most countries. Being employed is one of the most important determinants of an individual income satisfaction, it increases own income satisfaction in every country save for fathers in Germany and Luxembourg, and for the sample of fathers-daughters in Denmark and Finland. The same effect arises in the mothers sample save in Germany and in the sample mothers-son in Belgium and Finland, and in the mothers-daughters in Austria and the United Kingdom. Schwarze and Winkelmann (2005) estimate models in differences to eliminate potential endogeneity. Here we are estimating an equilibrium condition so the question of endogeneity does not arise. However, we can confirm that parental changes are also significantly affected by child changes in satisfaction of their children¹³.

Tables 10 and 11 show us the results of the Ordered Probit Model with four error components or multiple random effects¹⁴. This methodology is often employed when studying education as in Hedeker and Gibbons (1996 and 1994) clustering students in classes, and classes in schools. We find slightly smaller coefficients that are still positive and significant in all countries for both the altruism coefficient and the family income one. Finally, in Tables 12, 13 and 14 we present estimated money metrics of child welfare by taking the estimated altruism parameter and dividing it by the income parameter and then scale the result by the standard deviation of child satisfaction to get an estimate of the willingness of parents to pay for a one standard deviation change in child satisfaction¹⁵. The estimates can be interpreted as the proportion of satisfaction that parents are willing to give up for a standard deviation increase in child satisfaction.

¹³ As there is an increase in the measurement error when we estimate in differences, because we are treating the variable satisfaction as continuous, the parameters of all coefficients would be lower than the ones estimated from the levels data, so this estimator should be considered a lower bound.

¹⁴ The model is estimated using STATA 9.1 and the module “GLLAMM” written by S. Rabe-Hesketh, A. Pickles and A. Skrondal (see www.gllamm.org).

¹⁵ See Oswald (2002) for similar calculations in a different context.

Table 1.A. Child Income Satisfaction (Random Effects Ordered Probit Model)

Variables	Father's Economic Satisfaction (Boy)					Father's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria	0.1412 (0.0208)	0.1295 (0.0208)	0.1230 (0.0208)	0.1519 (0.0223)	0.1493 (0.0225)	0.1636 (0.0249)	0.1500 (0.0248)	0.1371 (0.0244)	0.1654 (0.0254)	0.1655 (0.0253)
Belgium	0.1198 (0.0320)	0.1071 (0.0312)	0.1116 (0.0305)	0.1123 (0.0311)	0.1097 (0.0307)	0.1022 (0.0332)	0.0997 (0.0331)	0.0945 (0.0329)	0.0975 (0.0339)	0.0975 (0.0335)
Denmark	0.1038 (0.0386)	0.0891 (0.0382)	0.1013 (0.0377)	0.1007 (0.0387)	0.1003 (0.0388)	0.2017 (0.0515)	0.2081 (0.0516)	0.2137 (0.0523)	0.2342 (0.0541)	0.2283 (0.0545)
Finland	0.2503 (0.0414)	0.2210 (0.0398)	0.2102 (0.0400)	0.2244 (0.0430)	0.2115 (0.0431)	0.3224 (0.0468)	0.2968 (0.0454)	0.2811 (0.0455)	0.2987 (0.0467)	0.2865 (0.0469)
France	0.1983 (0.0190)	0.1765 (0.0183)	0.1748 (0.0183)	0.1727 (0.0191)	0.1766 (0.0191)	0.1936 (0.0213)	0.1761 (0.0207)	0.1698 (0.0206)	0.1699 (0.0210)	0.1698 (0.0211)
Germany	0.2739 (0.0424)	0.2327 (0.0419)	0.2329 (0.0413)	0.2540 (0.0419)	0.2558 (0.0422)	0.1583 (0.0474)	0.1334 (0.0462)	0.1205 (0.0457)	0.1183 (0.0458)	0.1139 (0.0463)
Greece	0.5478 (0.0215)	0.5016 (0.0211)	0.4817 (0.0212)	0.5135 (0.0220)	0.5045 (0.0221)	0.5743 (0.0222)	0.5381 (0.0218)	0.5008 (0.0219)	0.5480 (0.0227)	0.5251 (0.0227)
Ireland	0.2263 (0.0214)	0.2109 (0.0211)	0.2036 (0.0205)	0.2191 (0.0215)	0.2210 (0.0214)	0.2134 (0.0230)	0.1914 (0.0225)	0.1886 (0.0223)	0.1966 (0.0233)	0.2005 (0.0233)
Italy	0.3787 (0.0132)	0.3546 (0.0130)	0.3456 (0.0129)	0.3607 (0.0136)	0.3586 (0.0136)	0.3999 (0.0142)	0.3828 (0.0140)	0.3663 (0.0139)	0.3798 (0.0142)	0.3727 (0.0142)
Luxembourg	0.4447 (0.0967)	0.4645 (0.1007)	0.4363 (0.0927)	0.4677 (0.0995)	0.4936 (0.1019)	0.3766 (0.0864)	0.3697 (0.0839)	0.2893 (0.0795)	0.3878 (0.0802)	0.3016 (0.0808)
Netherlands	0.1560 (0.0266)	0.1525 (0.0268)	0.1374 (0.0265)	0.1494 (0.0271)	0.1375 (0.0270)	0.1277 (0.0292)	0.1264 (0.0288)	0.1249 (0.0284)	0.1194 (0.0291)	0.1177 (0.0290)
Portugal	0.4803 (0.0212)	0.4661 (0.0209)	0.4552 (0.0208)	0.4700 (0.0216)	0.4745 (0.0217)	0.5105 (0.0233)	0.4889 (0.0232)	0.4873 (0.0232)	0.5206 (0.0238)	0.5249 (0.0239)
Spain	0.2291 (0.0117)	0.2187 (0.0115)	0.2103 (0.0114)	0.2122 (0.0118)	0.2101 (0.0118)	0.2295 (0.0124)	0.2217 (0.0122)	0.2122 (0.0120)	0.2236 (0.0125)	0.2187 (0.0124)
UK	0.1594 (0.0370)	0.1329 (0.0360)	0.1382 (0.0362)	0.1335 (0.0370)	0.1431 (0.0366)	0.2295 (0.0401)	0.2076 (0.0391)	0.2152 (0.0402)	0.2079 (0.0402)	0.2106 (0.0408)

Note: Std errors ratio in brackets

Table 1.B. Child Income Satisfaction (Random Effects Ordered Probit Model)

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria	0.2009 (0.0196)	0.1914 (0.0195)	0.1869 (0.0194)	0.2213 (0.0210)	0.2217 (0.0211)	0.2060 (0.0238)	0.1997 (0.0236)	0.1911 (0.0231)	0.2200 (0.0239)	0.2185 (0.0240)
Belgium	0.1187 (0.0270)	0.1024 (0.0261)	0.0995 (0.0255)	0.1061 (0.0259)	0.1040 (0.0259)	0.1747 (0.0291)	0.1709 (0.0283)	0.1557 (0.0286)	0.1547 (0.0287)	0.1500 (0.0289)
Denmark	0.1320 (0.0370)	0.1130 (0.0367)	0.1143 (0.0369)	0.1163 (0.0377)	0.1176 (0.0378)	0.1034 (0.0456)	0.1112 (0.0450)	0.1066 (0.0456)	0.1108 (0.0459)	0.0999 (0.0465)
Finland	0.2515 (0.0418)	0.2010 (0.0407)	0.1993 (0.0413)	0.1920 (0.0436)	0.1836 (0.0442)	0.3461 (0.0418)	0.3198 (0.0410)	0.2978 (0.0406)	0.3131 (0.0409)	0.3106 (0.0414)
France	0.1962 (0.0175)	0.1793 (0.0173)	0.1734 (0.0170)	0.1835 (0.0179)	0.1808 (0.0179)	0.2161 (0.0197)	0.1939 (0.0190)	0.1791 (0.0191)	0.1868 (0.0196)	0.1803 (0.0197)
Germany	0.2463 (0.0375)	0.1977 (0.0357)	0.1985 (0.0353)	0.2149 (0.0362)	0.2087 (0.0366)	0.2503 (0.0493)	0.2184 (0.0474)	0.2033 (0.0468)	0.1907 (0.0467)	0.1849 (0.0471)
Greece	0.6548 (0.0209)	0.6105 (0.0207)	0.5947 (0.0210)	0.6381 (0.0218)	0.6250 (0.0219)	0.6290 (0.0211)	0.5906 (0.0207)	0.5713 (0.0209)	0.6191 (0.0216)	0.6102 (0.0218)
Ireland	0.2071 (0.0193)	0.1912 (0.0192)	0.1836 (0.0189)	0.2044 (0.0197)	0.2027 (0.0197)	0.1936 (0.0200)	0.1783 (0.0196)	0.1790 (0.0193)	0.1856 (0.0202)	0.1879 (0.0202)
Italy	0.4107 (0.0125)	0.3870 (0.0124)	0.3760 (0.0122)	0.3990 (0.0129)	0.3938 (0.0129)	0.4647 (0.0135)	0.4476 (0.0133)	0.4310 (0.0132)	0.4497 (0.0136)	0.4435 (0.0135)
Luxembourg	0.3180 (0.0759)	0.3149 (0.0739)	0.2656 (0.0699)	0.3326 (0.0730)	0.2810 (0.0702)	0.2221 (0.0759)	0.2343 (0.0769)	0.1842 (0.0707)	0.2795 (0.0767)	0.2279 (0.0730)
Netherlands	0.1554 (0.0251)	0.1424 (0.0242)	0.1388 (0.0241)	0.1396 (0.0247)	0.1422 (0.0246)	0.1945 (0.0287)	0.1846 (0.0277)	0.1664 (0.0276)	0.1674 (0.0285)	0.1586 (0.0281)
Portugal	0.5031 (0.0191)	0.4860 (0.0190)	0.4743 (0.0189)	0.5029 (0.0196)	0.5000 (0.0196)	0.5841 (0.0213)	0.5665 (0.0212)	0.5551 (0.0211)	0.5828 (0.0215)	0.5821 (0.0216)
Spain	0.2718 (0.0110)	0.2610 (0.0109)	0.2532 (0.0108)	0.2594 (0.0112)	0.2552 (0.0112)	0.2762 (0.0117)	0.2676 (0.0114)	0.2607 (0.0114)	0.2709 (0.0117)	0.2657 (0.0117)
UK	0.1995 (0.0312)	0.1708 (0.0300)	0.1606 (0.0303)	0.1675 (0.0306)	0.1636 (0.0306)	0.2444 (0.0343)	0.2297 (0.0337)	0.2249 (0.0334)	0.2272 (0.0342)	0.2235 (0.0338)

Note: Std errors in brackets.

Table 2.A. Child Income Satisfaction whether is a step child

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria	-0.1342 (0.1245)	-0.1350 (0.1235)	-0.0995 (0.1180)	-0.1265 (0.1221)	-0.0996 (0.1179)	0.0733 (0.1834)	0.0102 (0.1885)	0.0327 (0.1939)	0.0173 (0.1916)	-0.0215 (0.1927)
Belgium	-0.0743 (0.1086)	-0.0638 (0.1086)	-0.0724 (0.1102)	-0.0799 (0.1093)	-0.0726 (0.1104)	-0.1162 (0.1416)	-0.1186 (0.1494)	-0.1311 (0.1579)	-0.1236 (0.1551)	-0.1236 (0.1534)
Denmark	-0.0897 (0.1303)	-0.1352 (0.1344)	-0.2286 (0.1339)	-0.1851 (0.1339)	-0.2311 (0.1348)	-0.1954 (0.2036)	-0.1986 (0.2002)	-0.2303 (0.1962)	-0.2288 (0.2006)	-0.2485 (0.1965)
Finland	0.1922 (0.3173)	0.1024 (0.3305)	0.0235 (0.3384)	0.0651 (0.3357)	0.0217 (0.3400)	0.5787 (0.4191)	0.5710 (0.4154)	0.4008 (0.4182)	0.5183 (0.4137)	0.3744 (0.4193)
France	-0.0359 (0.0762)	-0.0308 (0.0749)	-0.0425 (0.0751)	-0.0220 (0.0749)	-0.0409 (0.0752)	-0.0122 (0.1060)	-0.0733 (0.1019)	-0.0528 (0.1049)	-0.0895 (0.1056)	-0.0591 (0.1051)
Germany	-0.0586 (0.2666)	-0.3847 (0.2667)	-0.3232 (0.2673)	-0.3649 (0.2536)	-0.3062 (0.2621)	-0.2885 (0.3787)	-0.1965 (0.3690)	-0.0983 (0.3636)	-0.0375 (0.3613)	-0.0522 (0.3612)
Greece	0.0517 (0.1601)	-0.0717 (0.1587)	-0.1011 (0.1575)	-0.1282 (0.1573)	-0.1296 (0.1569)	1.1808 (0.4838)	0.4083 (0.5766)	0.3598 (0.5820)	0.5048 (0.5788)	0.4288 (0.5820)
Ireland	-0.1604 (0.2309)	-0.1299 (0.2267)	-0.0422 (0.2236)	-0.0396 (0.2233)	-0.0230 (0.2233)	0.1399 (0.3252)	0.2160 (0.3170)	0.4452 (0.3115)	0.3733 (0.3106)	0.4363 (0.3109)
Italy	-0.0958 (0.1633)	-0.0211 (0.1712)	0.0392 (0.1702)	0.0246 (0.1699)	0.0399 (0.1703)	0.2455 (0.1771)	0.2631 (0.1785)	0.2263 (0.1740)	0.2804 (0.1753)	0.2387 (0.1743)
Luxembourg	-0.0386 (0.4611)	-0.6788 (0.5373)	0.2249 (0.4848)	-0.0829 (0.4714)	-0.6603 (0.5420)	-0.4708 (0.3277)	-0.3417 (0.3313)	-0.5495 (0.3743)	-0.3948 (0.3227)	-0.2806 (0.3281)
Netherlands	-0.3702 (0.2789)	-229.3451 (126.5443)	-181.6745 (127.0542)	-230.8773 (126.6681)	-181.2852 (127.1032)	0.3475 (0.3145)	0.5713 (0.3860)	0.5645 (0.3872)	0.5503 (0.3872)	0.6017 (0.3884)
Portugal	0.1334 (0.1301)	0.1284 (0.1287)	0.1341 (0.1281)	0.1125 (0.1277)	0.1253 (0.1278)	-0.2762 (0.2459)	-0.2571 (0.2340)	-0.2964 (0.2355)	-0.2190 (0.2326)	-0.2704 (0.2354)
Spain	-0.1857 (0.1409)	-0.1713 (0.1392)	-0.1252 (0.1368)	-0.1748 (0.1378)	-0.1190 (0.1369)	0.2493 (0.1307)	0.2104 (0.1281)	0.1893 (0.1245)	0.2030 (0.1259)	0.1930 (0.1240)
UK	-0.0924 (0.0971)	-0.0568 (0.0976)	-0.0943 (0.1051)	-0.1063 (0.0986)	-0.1036 (0.1055)	0.0491 (0.1237)	0.0441 (0.1221)	0.0011 (0.1198)	0.0270 (0.1198)	0.0094 (0.1202)

Note: Std errors in brackets.

Table 2.B. Child Income Satisfaction whether is a step child

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria	-0.2975 (0.1578)	-0.3571 (0.1690)	-0.3389 (0.1664)	-0.3779 (0.1670)	-0.3692 (0.1668)	-0.1039 (0.1955)	-0.0809 (0.1895)	-0.0770 (0.2027)	-0.0312 (0.1978)	0.0114 (0.2060)
Belgium	-0.0233 (0.1833)	0.0331 (0.1867)	0.0852 (0.1846)	0.0920 (0.1870)	0.0794 (0.1844)	0.1901 (0.1635)	0.1727 (0.1664)	0.2001 (0.1674)	0.2183 (0.1680)	0.1996 (0.1674)
Denmark	-0.1868 (0.1684)	-0.1703 (0.1702)	-0.2015 (0.1701)	-0.1549 (0.1709)	-0.1986 (0.1716)	0.5542 (0.4926)	0.5341 (0.5143)	0.5949 (0.5918)	0.5715 (0.5273)	0.6327 (0.5941)
Finland	0.3341 (0.7234)	0.4198 (0.7252)	0.1540 (0.7418)	0.1395 (0.7317)	0.1954 (0.7492)	3.2567 (1.4256)	2.4201 (1.5791)	2.6716 (1.5454)	2.1813 (1.4985)	2.8054 (1.5426)
France	-0.2064 (0.1538)	-0.1564 (0.1470)	-0.2208 (0.1451)	-0.2222 (0.1469)	-0.2268 (0.1452)	-0.2159 (0.1517)	-0.0726 (0.1523)	-0.0644 (0.1524)	-0.0622 (0.1506)	-0.0668 (0.1524)
Germany	0.0114 (0.3592)	0.0329 (0.3376)	0.0341 (0.3350)	-0.0132 (0.3285)	0.0115 (0.3343)	0.3306 (0.3585)	-0.0076 (0.4881)	0.0753 (0.4848)	0.0279 (0.4767)	0.1186 (0.4811)
Greece	-0.3651 (0.1974)	-0.2908 (0.1957)	-0.2493 (0.1952)	-0.2897 (0.1949)	-0.2440 (0.1949)	0.4501 (0.3266)				
Ireland	0.0896 (0.2041)	-2.6699 (77.0384)	-2.8954 (77.0497)	-2.9197 (77.0176)	-3.0540 (77.0523)	0.2492 (0.6165)	0.2408 (0.6172)	0.2407 (0.6172)	0.2780 (0.6184)	0.2775 (0.6186)
Italy	0.1065 (0.5987)	0.2464 (0.7493)	-0.0392 (0.7460)	0.1945 (0.7458)	-0.0711 (0.7455)	0.2287 (0.2594)	0.2221 (0.2554)	0.1602 (0.2527)	0.1941 (0.2537)	0.1538 (0.2527)
Luxembourg	-0.6564 (0.5163)					0.6434 (0.4677)	0.1881 (0.5693)	-0.1198 (0.5338)	0.0989 (0.5314)	-0.1476 (0.5143)
Netherlands	1.9287 (0.5062)	1.8600 (0.5424)	1.8907 (0.5498)	1.8247 (0.5464)	1.9136 (0.5463)	0.1955 (0.2713)	0.2445 (0.2618)	0.2779 (0.2640)	0.2673 (0.2660)	0.2783 (0.2644)
Portugal	-0.1907 (0.1307)	-0.1482 (0.1306)	-0.2032 (0.1290)	-0.1827 (0.1293)	-0.1960 (0.1291)	0.3129 (0.2653)	0.3255 (0.2584)	0.2632 (0.2567)	0.2345 (0.2549)	0.2129 (0.2551)
Spain	0.2453 (0.3039)	0.1466 (0.2988)	0.2588 (0.2921)	0.2051 (0.2917)	0.2355 (0.2908)	-0.3378 (0.1864)	-0.3965 (0.1970)	-0.2950 (0.1968)	-0.3506 (0.1955)	-0.2938 (0.1959)
UK	-0.3167 (0.2256)	-0.3251 (0.2323)	-0.2843 (0.2181)	-0.2355 (0.2222)	-0.2350 (0.2225)	-0.2614 (0.3163)	-0.2643 (0.2928)	-0.3151 (0.3082)	-0.2477 (0.2973)	-0.3394 (0.3084)

Note: Std errors in brackets.

Table 3.A. Log Family Income

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		0.5471 (0.0922)	0.7378 (0.0950)	0.7752 (0.0955)	0.7565 (0.0954)		0.7163 (0.1103)	0.8115 (0.1187)	0.9538 (0.1188)	0.8574 (0.1210)
Belgium		0.5998 (0.1137)	0.2673 (0.1294)	0.5475 (0.1192)	0.2777 (0.1315)		0.3885 (0.1107)	0.2707 (0.1196)	0.3882 (0.1126)	0.2565 (0.1225)
Denmark		0.9511 (0.1843)	0.8400 (0.1887)	0.9624 (0.1870)	0.8382 (0.1909)		0.9147 (0.3290)	0.7137 (0.2882)	0.7664 (0.2978)	0.7164 (0.2910)
Finland		1.4068 (0.1502)	1.2456 (0.1569)	1.4275 (0.1540)	1.2344 (0.1606)		1.3596 (0.1988)	1.2219 (0.2078)	1.4412 (0.2060)	1.2089 (0.2106)
France		0.9072 (0.0646)	0.8117 (0.0689)	0.9091 (0.0649)	0.8241 (0.0691)		0.9375 (0.0711)	0.8032 (0.0747)	0.9356 (0.0695)	0.8075 (0.0749)
Germany		0.7171 (0.1313)	0.7116 (0.1356)	0.7697 (0.1290)	0.7521 (0.1350)		0.9815 (0.1665)	0.8781 (0.1706)	0.9618 (0.1632)	0.8815 (0.1695)
Greece		0.5530 (0.0387)	0.4990 (0.0402)	0.5787 (0.0391)	0.5151 (0.0404)		0.4977 (0.0427)	0.4460 (0.0442)	0.5347 (0.0433)	0.4571 (0.0446)
Ireland		0.6258 (0.0705)	0.5641 (0.0744)	0.7351 (0.0741)	0.6078 (0.0757)		0.8965 (0.0823)	0.7197 (0.0903)	0.9623 (0.0845)	0.7522 (0.0911)
Italy		0.4180 (0.0277)	0.3640 (0.0277)	0.4421 (0.0278)	0.3809 (0.0282)		0.3630 (0.0293)	0.3007 (0.0295)	0.3738 (0.0293)	0.3090 (0.0299)
Luxembourg		0.3578 (0.4013)	0.4673 (0.3479)	0.8104 (0.3748)	0.6572 (0.3581)		0.5895 (0.2771)	0.5027 (0.2645)	0.7433 (0.2716)	0.4478 (0.2746)
Netherlands		0.6154 (0.0926)	0.5073 (0.0928)	0.5702 (0.0937)	0.5068 (0.0931)		0.7103 (0.0987)	0.6704 (0.0965)	0.6811 (0.0983)	0.6479 (0.0976)
Portugal		0.4450 (0.0410)	0.4057 (0.0429)	0.4617 (0.0418)	0.4209 (0.0433)		0.3507 (0.0436)	0.3023 (0.0452)	0.4173 (0.0443)	0.3508 (0.0455)
Spain		0.3015 (0.0261)	0.2590 (0.0262)	0.3164 (0.0262)	0.2611 (0.0263)		0.4051 (0.0270)	0.3440 (0.0275)	0.4135 (0.0274)	0.3513 (0.0276)
UK		1.1273 (0.1036)	0.9293 (0.1097)	1.0160 (0.1112)	0.9316 (0.1102)		1.2566 (0.1223)	1.0709 (0.1337)	1.1738 (0.1295)	1.0720 (0.1342)

Note: Std errors in brackets.

Table 3.B. Log Family Income

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		0.3782 (0.0797)	0.5380 (0.0845)	0.5756 (0.0821)	0.5853 (0.0841)		0.5009 (0.0927)	0.6878 (0.1015)	0.7248 (0.0998)	0.7142 (0.1021)
Belgium		0.6703 (0.0952)	0.4558 (0.1011)	0.5495 (0.0986)	0.4814 (0.1027)		0.8045 (0.0898)	0.6151 (0.0960)	0.7340 (0.0955)	0.6133 (0.0966)
Denmark		1.3954 (0.1818)	1.2521 (0.1934)	1.3981 (0.1897)	1.2666 (0.1951)		0.8455 (0.2086)	0.5471 (0.2352)	0.6743 (0.2275)	0.5909 (0.2385)
Finland		1.7263 (0.1756)	1.5319 (0.1890)	1.7235 (0.1833)	1.5855 (0.1969)		1.0612 (0.1632)	0.7775 (0.1847)	1.0108 (0.1707)	0.7237 (0.1856)
France		0.8105 (0.0588)	0.6983 (0.0627)	0.8051 (0.0594)	0.7124 (0.0629)		0.8958 (0.0644)	0.7300 (0.0711)	0.8651 (0.0666)	0.7341 (0.0713)
Germany		0.7945 (0.1068)	0.7881 (0.1137)	0.8765 (0.1102)	0.8115 (0.1151)		0.9120 (0.1529)	0.7949 (0.1616)	0.8557 (0.1542)	0.7740 (0.1600)
Greece		0.4896 (0.0369)	0.4489 (0.0385)	0.5069 (0.0375)	0.4600 (0.0388)		0.4633 (0.0385)	0.4182 (0.0401)	0.4967 (0.0391)	0.4337 (0.0403)
Ireland		0.5066 (0.0613)	0.4419 (0.0657)	0.5371 (0.0640)	0.4723 (0.0663)		0.7041 (0.0669)	0.5842 (0.0737)	0.7276 (0.0713)	0.6092 (0.0750)
Italy		0.3408 (0.0250)	0.2844 (0.0251)	0.3704 (0.0250)	0.3048 (0.0254)		0.3359 (0.0268)	0.2684 (0.0270)	0.3521 (0.0268)	0.2848 (0.0274)
Luxembourg		0.8073 (0.2594)	0.8561 (0.2528)	0.6619 (0.2461)	0.8394 (0.2364)		0.9359 (0.2519)	0.6784 (0.2668)	1.0361 (0.2778)	0.7626 (0.2388)
Netherlands		0.8328 (0.0796)	0.6076 (0.0822)	0.7232 (0.0840)	0.5968 (0.0829)		0.7175 (0.0896)	0.5628 (0.0943)	0.6298 (0.0919)	0.5365 (0.0961)
Portugal		0.3574 (0.0363)	0.3078 (0.0380)	0.3809 (0.0371)	0.3309 (0.0383)		0.3231 (0.0371)	0.2955 (0.0391)	0.3774 (0.0377)	0.3329 (0.0394)
Spain		0.3134 (0.0239)	0.2668 (0.0243)	0.3192 (0.0241)	0.2700 (0.0245)		0.4348 (0.0249)	0.3702 (0.0258)	0.4235 (0.0254)	0.3694 (0.0259)
UK		0.8326 (0.0683)	0.6295 (0.0759)	0.7371 (0.0822)	0.6320 (0.0772)		1.0360 (0.0876)	0.8125 (0.0948)	0.9194 (0.0928)	0.8157 (0.0953)

Note: Std errors in brackets.

Table 4.A. Log Family Income whether is a stepchild

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		0.6454 (0.7297)	0.4906 (0.6809)	0.6425 (0.7125)	0.4505 (0.6886)		0.5446 (0.4729)	0.7572 (0.4645)	0.6965 (0.4649)	0.7675 (0.4605)
Belgium		-0.6965 (0.6299)	-0.4454 (0.5567)	-0.4945 (0.6090)	-0.4872 (0.5541)		0.1265 (0.8615)	-0.0356 (0.8419)	0.0367 (0.8529)	-0.0872 (0.8466)
Denmark		0.9927 (0.9801)	0.8789 (0.9523)	0.7798 (0.9545)	0.8651 (0.9558)		-0.2564 (1.0847)	-0.6323 (1.1339)	-0.2617 (1.1509)	-0.6269 (1.1388)
Finland		0.3627 (1.6770)	0.2166 (1.6730)	0.3545 (1.6909)	0.2408 (1.6842)		-0.6835 (1.2081)	-0.7309 (1.2180)	-0.4793 (1.2125)	-0.6094 (1.2285)
France		0.5962 (0.3109)	0.4894 (0.3100)	0.5065 (0.3066)	0.4869 (0.3103)		0.5886 (0.4285)	0.4694 (0.4404)	0.4699 (0.4411)	0.4592 (0.4400)
Germany		0.4689 (1.0239)	0.8878 (1.0227)	0.7123 (0.9724)	0.9368 (1.0042)		0.3248 (1.1065)	0.4848 (1.0830)	0.2765 (1.0766)	0.5067 (1.0791)
Greece		0.4856 (0.2437)	0.4950 (0.2419)	0.4797 (0.2413)	0.5068 (0.2410)		0.7644 (0.5334)	0.7723 (0.5233)	0.7005 (0.5242)	0.7500 (0.5171)
Ireland		0.1858 (0.2397)	0.1096 (0.2355)	0.1251 (0.2359)	0.0776 (0.2353)		0.4213 (0.2407)	0.4987 (0.2410)	0.4851 (0.2392)	0.5090 (0.2412)
Italy		-0.9552 (0.5618)	-0.9762 (0.5518)	-0.8898 (0.5498)	-0.9417 (0.5514)		0.3714 (0.4670)	0.4768 (0.4753)	0.3987 (0.4733)	0.4790 (0.4756)
Luxembourg		-5.5477 (2.1358)	5.3321 (3.0462)	4.0187 (3.0884)	-5.9039 (2.1369)		2.9728 (2.3449)	4.3508 (4.2411)	5.736 (1.0999)	1.5054 (1.3210)
Netherlands		85.1207 (47.0494)		85.6765 (47.0954)	67.2647 (47.2564)		-7.7536 (7.9710)	-7.4955 (7.9994)	-7.6536 (7.9924)	-8.1788 (8.0191)
Portugal		0.2104 (0.3289)	0.1605 (0.3218)	0.2077 (0.3200)	0.1818 (0.3191)		0.2831 (0.2399)	0.0913 (0.2525)	0.2628 (0.2430)	0.1013 (0.2349)
Spain		-0.2099 (0.2572)	-0.2397 (0.2521)	-0.4317 (0.2521)	-0.2457 (0.2520)		0.1744 (0.2668)	0.0055 (0.2599)	0.0059 (0.2625)	-0.0196 (0.2590)
UK		-0.0209 (0.3474)	0.0398 (0.3016)	0.1210 (0.2964)	0.0627 (0.3016)		-0.2379 (0.4677)	-0.4346 (0.3076)	-0.3110 (0.3087)	-0.4156 (0.3050)

Note: Std errors in brackets.

Table 4.B. Log Family Income whether is a stepchild

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		0.5671 (0.9120)	0.5772 (0.8966)	0.8489 (0.8977)	0.8352 (0.9001)		0.7140 (1.5367)	0.5521 (1.5828)	0.7557 (1.5892)	0.8332 (1.6079)
Belgium		0.0427 (0.7247)	0.6691 (0.7239)	0.3560 (0.7412)	0.6438 (0.7175)		-0.5644 (0.6296)	-0.0630 (0.6415)	-0.4618 (0.6464)	-0.0624 (0.6427)
Denmark		0.8454 (1.9016)	1.1815 (1.9104)	0.9619 (1.8933)	1.2286 (1.9208)		-2.0216 (2.6715)	-1.7203 (2.7889)	-1.9533 (2.6980)	-1.9279 (2.7935)
Finland		5.2313 (4.3561)	3.6952 (4.3935)	3.2645 (4.3845)	3.4605 (4.4505)		1.5920 (2.5629)	0.7785 (2.4157)	1.3332 (2.4272)	0.6475 (2.4246)
France		0.1565 (0.5894)	0.1665 (0.5712)	0.1124 (0.5782)	0.1566 (0.5700)		0.1415 (0.3890)	0.0946 (0.3872)	0.2299 (0.3801)	0.1006 (0.3872)
Germany		-0.6755 (0.2661)	-0.6007 (0.2697)	-0.7114 (0.2738)	-0.6173 (0.2798)		0.8734 (1.7300)	0.7925 (1.7133)	1.0789 (1.6921)	0.8098 (1.7059)
Greece		0.0395 (0.3298)	0.1002 (0.3289)	0.0519 (0.3287)	0.1141 (0.3287)		0.1097 (0.0803)	0.0880 (0.0810)	0.0953 (0.0790)	0.0877 (0.0806)
Ireland		1.5017 (41.7433)	1.6288 (41.7493)	1.6401 (41.7320)	1.7178 (41.7508)		-6.1271 (6.7416)	-4.6241 (6.7467)	-4.6680 (6.7490)	-4.3451 (6.7523)
Italy		-0.3401 (1.2206)	0.1545 (1.1992)	-0.2226 (1.1965)	0.1739 (1.1960)		0.8546 (0.6813)	0.7940 (0.6719)	0.8647 (0.6763)	0.7924 (0.6721)
Luxembourg		-0.1457 (0.1036)	-0.0625 (0.0950)	-0.1226 (0.1034)	-0.0710 (0.0961)		3.2480 (2.9830)	4.5956 (3.4622)	3.4282 (3.9907)	4.3089 (4.4262)
Netherlands		-0.8970 (1.4574)	-0.9706 (1.4460)	-0.9709 (1.4727)	-1.0130 (1.4520)		-1.5177 (1.1896)	-1.6413 (1.2128)	-1.8286 (1.2514)	-1.6572 (1.2009)
Portugal		1.2998 (0.4215)	1.1915 (0.4059)	1.2813 (0.4015)	1.1822 (0.4031)		0.8255 (0.6463)	0.8028 (0.6425)	0.9012 (0.6339)	0.8967 (0.6404)
Spain		1.2043 (0.5891)	1.3435 (0.5779)	1.3173 (0.5755)	1.3959 (0.5757)		0.0676 (0.4837)	-0.0952 (0.4771)	-0.0388 (0.4748)	-0.1306 (0.4737)
UK		-0.3657 (0.5064)	-0.4406 (0.4790)	-0.3405 (0.4871)	-0.3305 (0.4906)		0.1094 (0.5659)	0.1358 (0.4942)	0.0122 (0.5227)	0.1493 (0.4931)

Note: Std errors in brackets.

Table 5.A. *Income Shock*

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		-0.3617 (0.2868)	-0.3744 (0.2887)	-0.3927 (0.2884)	-0.4051 (0.2879)		-0.3720 (0.2787)	-0.3994 (0.2751)	-0.3663 (0.2726)	-0.4140 (0.2744)
Belgium		0.3233 (0.1631)	0.2605 (0.1607)	0.3107 (0.1619)	0.2642 (0.1613)		0.1824 (0.1812)	0.1739 (0.1843)	0.1869 (0.1815)	0.1740 (0.1850)
Denmark		0.3878 (0.1681)	0.4050 (0.1668)	0.3971 (0.1660)	0.4028 (0.1669)		0.3310 (0.2392)	0.2847 (0.2403)	0.3182 (0.2430)	0.2780 (0.2422)
Finland		-0.1541 (0.1728)	-0.2733 (0.1744)	-0.1845 (0.1748)	-0.2685 (0.1761)		0.3672 (0.2117)	0.2202 (0.2125)	0.3243 (0.2122)	0.2285 (0.2134)
France		0.2176 (0.1547)	0.1849 (0.1545)	0.1842 (0.1540)	0.1791 (0.1546)		0.2784 (0.1804)	0.2197 (0.1815)	0.2302 (0.1804)	0.2105 (0.1816)
Germany		0.1798 (0.3327)	0.1167 (0.3300)	0.0634 (0.3214)	0.0548 (0.3259)		-0.3848 (0.3772)	-0.5432 (0.3767)	-0.5267 (0.3735)	-0.5438 (0.3750)
Greece		0.2663 (0.1738)	0.1940 (0.1736)	0.2515 (0.1731)	0.1932 (0.1734)		0.0046 (0.1810)	-0.0473 (0.1802)	-0.0246 (0.1801)	-0.0617 (0.1800)
Ireland		0.1858 (0.2397)	0.1096 (0.2355)	0.1251 (0.2359)	0.0776 (0.2353)		0.4213 (0.2407)	0.4987 (0.2410)	0.4851 (0.2392)	0.5090 (0.2412)
Italy		-0.1399 (0.1164)	-0.1478 (0.1155)	-0.1450 (0.1154)	-0.1526 (0.1154)		0.0133 (0.1199)	0.0103 (0.1190)	0.0207 (0.1191)	0.0079 (0.1190)
Luxembourg		0.3552 (0.6746)	-0.8967 (0.6533)	0.1137 (0.6687)	-0.0740 (0.6784)		0.2133 (0.6474)	-0.5955 (0.6430)	0.0448 (0.6216)	-0.4809 (0.6399)
Netherlands		0.3104 (0.1201)	0.2600 (0.1188)	0.2922 (0.1186)	0.2565 (0.1189)		0.2171 (0.1421)	0.1720 (0.1415)	0.1822 (0.1412)	0.1849 (0.1416)
Portugal		0.2796 (0.2556)	0.2560 (0.2541)	0.1904 (0.2536)	0.2221 (0.2537)		0.1874 (0.2437)	0.0727 (0.2440)	0.1767 (0.2427)	0.1071 (0.2434)
Spain		0.2124 (0.1205)	0.1769 (0.1193)	0.1975 (0.1197)	0.1737 (0.1193)		0.2004 (0.1263)	0.1882 (0.1253)	0.1816 (0.1256)	0.1835 (0.1251)
UK		0.3924 (0.4145)	0.4077 (0.4141)	0.3238 (0.4136)	0.3885 (0.4155)		-0.3798 (0.4581)	-0.4599 (0.4591)	-0.3055 (0.4495)	-0.4602 (0.4605)

Note: Std errors in brackets.

Table 5.B. *Income Shock*

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		-0.7097 (0.2627)	-0.7189 (0.2612)	-0.7851 (0.2614)	-0.7555 (0.2605)		0.1930 (0.2447)	0.1233 (0.2425)	0.1458 (0.2421)	0.1348 (0.2424)
Belgium		0.1825 (0.1403)	0.1438 (0.1404)	0.1490 (0.1408)	0.1468 (0.1406)		0.2722 (0.1592)	0.3080 (0.1588)	0.2791 (0.1594)	0.3241 (0.1592)
Denmark		0.2836 (0.1661)	0.2729 (0.1648)	0.2692 (0.1645)	0.2770 (0.1651)		0.4765 (0.2045)	0.4727 (0.2095)	0.4626 (0.2064)	0.4647 (0.2102)
Finland		0.0292 (0.1839)	0.0085 (0.1837)	-0.0305 (0.1848)	0.0018 (0.1856)		0.0750 (0.1824)	0.0692 (0.1807)	0.0525 (0.1781)	0.0949 (0.1812)
France		0.2424 (0.1474)	0.1971 (0.1472)	0.1925 (0.1470)	0.1844 (0.1472)		0.1280 (0.1728)	0.0799 (0.1735)	0.0844 (0.1724)	0.0751 (0.1736)
Germany		0.4017 (0.3059)	0.3813 (0.3013)	0.3162 (0.2969)	0.3581 (0.3005)		0.2990 (0.4021)	0.1147 (0.3988)	0.1815 (0.3949)	0.1219 (0.3960)
Greece		0.3026 (0.1668)	0.2575 (0.1667)	0.2761 (0.1669)	0.2428 (0.1669)		0.2590 (0.1685)	0.1887 (0.1681)	0.2146 (0.1675)	0.1628 (0.1679)
Ireland		0.0039 (0.1919)	-0.0280 (0.1897)	-0.0901 (0.1907)	-0.0815 (0.1901)		0.2379 (0.1948)	0.2736 (0.1931)	0.2686 (0.1931)	0.2759 (0.1935)
Italy		-0.1855 (0.1108)	-0.2147 (0.1098)	-0.1958 (0.1100)	-0.2192 (0.1097)		0.3609 (0.1144)	0.3270 (0.1136)	0.3493 (0.1138)	0.3245 (0.1135)
Luxembourg		0.2369 (0.4773)	0.0629 (0.4570)	0.0031 (0.4613)	-0.0039 (0.4498)		-0.3017 (0.5845)	-0.5307 (0.5988)	-0.6384 (0.5847)	-0.3546 (0.5824)
Netherlands		0.1931 (0.1114)	0.1644 (0.1102)	0.1588 (0.1111)	0.1673 (0.1105)		0.2250 (0.1365)	0.1625 (0.1374)	0.1923 (0.1379)	0.1740 (0.1377)
Portugal		0.5438 (0.2244)	0.5105 (0.2224)	0.4985 (0.2216)	0.4977 (0.2217)		-0.0033 (0.2166)	-0.0466 (0.2148)	-0.0515 (0.2141)	-0.0215 (0.2142)
Spain		0.1244 (0.1136)	0.1337 (0.1128)	0.1233 (0.1128)	0.1253 (0.1127)		0.2530 (0.1176)	0.2521 (0.1169)	0.2274 (0.1169)	0.2392 (0.1168)
UK		0.7352 (0.3513)	0.6682 (0.3483)	0.6363 (0.3463)	0.6203 (0.3483)		0.8466 (0.4103)	0.7647 (0.4068)	0.7989 (0.4070)	0.7217 (0.4075)

Note: Std errors in brackets.

Table 6.A. *Parent is married or not*

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			0.4070 (0.2506)		0.4170 (0.2466)			-0.2009 (0.2175)		-0.1637 (0.2104)
Belgium			0.4912 (0.2531)		0.4584 (0.2538)			0.1813 (0.2206)		0.2082 (0.2240)
Denmark			0.0269 (0.2171)		0.0295 (0.2169)			1.0225 (0.3725)		1.0090 (0.3727)
Finland			-0.0115 (0.2461)		-0.0130 (0.2484)			0.1364 (0.2981)		0.1011 (0.3006)
France			0.0696 (0.1296)		0.0566 (0.1292)			-0.0943 (0.1512)		-0.0938 (0.1512)
Germany			0.0941 (0.3904)		0.0857 (0.3825)			0.4848 (0.5104)		0.3696 (0.5081)
Greece			0.1078 (0.2482)		0.0731 (0.2472)			-0.4821 (0.2279)		-0.4644 (0.2268)
Ireland			-0.1829 (0.1991)		-0.1936 (0.1983)			0.0607 (0.2698)		0.1045 (0.2674)
Italy			-0.0785 (0.1734)		-0.1043 (0.1735)			-0.0951 (0.1918)		-0.1065 (0.1905)
Luxembourg			1.6319 (0.7778)		1.6290 (0.8822)			-0.8315 (0.7105)		-0.8771 (0.7143)
Netherlands			0.4664 (0.2285)		0.4675 (0.2288)			-0.1003 (0.2826)		-0.0901 (0.2813)
Portugal			0.1442 (0.1244)		0.1505 (0.1232)			0.2136 (0.1697)		0.2141 (0.1690)
Spain			-0.0100 (0.1246)		-0.0216 (0.1244)			0.0824 (0.1311)		0.0609 (0.1308)
UK			0.3797 (0.1920)		0.3849 (0.1942)			-0.1675 (0.2252)		-0.1726 (0.2301)

Note: Std errors in brackets.

Table 6.B. *Parent is married or not*

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			0.5999 (0.1325)		0.5977 (0.1303)			0.4606 (0.1444)		0.4664 (0.1423)
Belgium			0.5039 (0.1616)		0.5028 (0.1613)			0.8201 (0.1634)		0.8336 (0.1625)
Denmark			0.3012 (0.2056)		0.2927 (0.2071)			0.2692 (0.2454)		0.2370 (0.2456)
Finland			0.6449 (0.2293)		0.6564 (0.2329)			0.5043 (0.2194)		0.5089 (0.2161)
France			0.3810 (0.0929)		0.3718 (0.0927)			0.4326 (0.1032)		0.4317 (0.1031)
Germany			0.8159 (0.2019)		0.7816 (0.2041)			0.5397 (0.2668)		0.5185 (0.2620)
Greece			0.3939 (0.0910)		0.3808 (0.0910)			0.1262 (0.0946)		0.1430 (0.0938)
Ireland			0.5993 (0.1240)		0.5707 (0.1238)			0.6202 (0.1313)		0.6080 (0.1322)
Italy			0.6185 (0.0751)		0.5860 (0.0750)			0.7823 (0.0815)		0.7666 (0.0816)
Luxembourg			0.1533 (0.4356)		0.1725 (0.4206)			0.0395 (0.4311)		0.0822 (0.4167)
Netherlands			1.4085 (0.1645)		1.4234 (0.1630)			1.0985 (0.1927)		1.0730 (0.1889)
Portugal			0.3924 (0.0705)		0.3696 (0.0700)			0.2929 (0.0825)		0.2694 (0.0817)
Spain			0.4104 (0.0646)		0.3817 (0.0644)			0.4533 (0.0650)		0.4300 (0.0648)
UK			0.8795 (0.1299)		0.8484 (0.1295)			0.5737 (0.1331)		0.5695 (0.1322)

Note: Std errors in brackets.

Table 7.A. Family Size

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			-0.2794 (0.0441)	-0.2863 (0.0423)	-0.2718 (0.0433)			-0.2823 (0.0455)	-0.3057 (0.0452)	-0.2876 (0.0447)
Belgium			0.1529 (0.0677)	0.0786 (0.0707)	0.1478 (0.0692)			-0.0340 (0.0699)	-0.0114 (0.0692)	-0.0333 (0.0712)
Denmark			-0.2006 (0.0907)	-0.2059 (0.0891)	-0.1983 (0.0910)			-0.0006 (0.1542)	0.0106 (0.1507)	-0.0123 (0.1547)
Finland			-0.0192 (0.0848)	-0.0281 (0.0813)	-0.0202 (0.0854)			-0.1194 (0.1000)	-0.0689 (0.0975)	-0.1228 (0.1011)
France			-0.2202 (0.0384)	-0.2317 (0.0374)	-0.2203 (0.0384)			-0.1061 (0.0412)	-0.1388 (0.0394)	-0.1066 (0.0411)
Germany			-0.3417 (0.0812)	-0.2956 (0.0772)	-0.3045 (0.0801)			-0.2308 (0.0963)	-0.2009 (0.0920)	-0.2288 (0.0957)
Greece			-0.0540 (0.0287)	-0.0618 (0.0283)	-0.0479 (0.0286)			-0.0702 (0.0319)	-0.1310 (0.0313)	-0.0786 (0.0318)
Ireland			-0.1300 (0.0303)	-0.1404 (0.0296)	-0.1333 (0.0303)			-0.0766 (0.0354)	-0.1022 (0.0330)	-0.0796 (0.0353)
Italy			-0.1218 (0.0237)	-0.1350 (0.0234)	-0.1194 (0.0237)			-0.1243 (0.0251)	-0.1428 (0.0244)	-0.1228 (0.0252)
Luxembourg			-0.1264 (0.2057)	-0.0712 (0.2135)	-0.1631 (0.2208)			-0.3962 (0.1527)	-0.3336 (0.1529)	-0.4067 (0.1571)
Netherlands			-0.0914 (0.0655)	-0.0878 (0.0641)	-0.0972 (0.0655)			-0.2226 (0.0644)	-0.2256 (0.0632)	-0.2169 (0.0641)
Portugal			-0.0504 (0.0251)	-0.0629 (0.0247)	-0.0436 (0.0249)			-0.0513 (0.0278)	-0.0839 (0.0271)	-0.0638 (0.0281)
Spain			-0.1240 (0.0197)	-0.1261 (0.0195)	-0.1217 (0.0197)			-0.0620 (0.0197)	-0.0479 (0.0196)	-0.0609 (0.0196)
UK			-0.1849 (0.0588)	-0.1627 (0.0548)	-0.1835 (0.0590)			-0.1249 (0.0702)	-0.1441 (0.0693)	-0.1249 (0.0701)

Note: Std errors in brackets.

Table 7.B. Family Size

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			-0.2308 (0.0409)	-0.2025 (0.0380)	-0.2363 (0.0409)			-0.2823 (0.0434)	-0.2741 (0.0420)	-0.2904 (0.0432)
Belgium			0.0238 (0.0564)	0.0549 (0.0545)	0.0224 (0.0567)			-0.0493 (0.0606)	0.0184 (0.0574)	-0.0530 (0.0606)
Denmark			-0.0845 (0.0959)	-0.0886 (0.0922)	-0.0907 (0.0969)			0.1611 (0.1333)	0.2066 (0.1279)	0.1754 (0.1346)
Finland			0.0362 (0.0926)	0.1447 (0.0896)	0.0476 (0.0938)			-0.0513 (0.0905)	-0.0378 (0.0846)	-0.0598 (0.0908)
France			-0.1675 (0.0364)	-0.1751 (0.0336)	-0.1680 (0.0363)			-0.1049 (0.0378)	-0.0961 (0.0348)	-0.1057 (0.0378)
Germany			-0.3882 (0.0701)	-0.2713 (0.0632)	-0.3735 (0.0705)			-0.1711 (0.0995)	-0.1129 (0.0894)	-0.1649 (0.0980)
Greece			-0.0111 (0.0281)	0.0066 (0.0265)	-0.0058 (0.0281)			-0.0538 (0.0299)	-0.0831 (0.0275)	-0.0678 (0.0297)
Ireland			-0.0789 (0.0299)	-0.0602 (0.0278)	-0.0786 (0.0298)			-0.0982 (0.0308)	-0.0830 (0.0291)	-0.0994 (0.0309)
Italy			-0.1390 (0.0211)	-0.1194 (0.0204)	-0.1357 (0.0211)			-0.1487 (0.0224)	-0.1155 (0.0214)	-0.1491 (0.0225)
Luxembourg			-0.3428 (0.1569)	-0.2482 (0.1491)	-0.3347 (0.1521)			-0.2116 (0.1547)	-0.2455 (0.1530)	-0.2313 (0.1502)
Netherlands			-0.1145 (0.0565)	0.0184 (0.0517)	-0.1133 (0.0564)			-0.1138 (0.0659)	0.0126 (0.0595)	-0.1036 (0.0667)
Portugal			-0.0592 (0.0227)	-0.0502 (0.0218)	-0.0563 (0.0227)			-0.0958 (0.0250)	-0.0972 (0.0238)	-0.1004 (0.0251)
Spain			-0.1042 (0.0181)	-0.0801 (0.0174)	-0.0992 (0.0180)			-0.0369 (0.0191)	-0.0124 (0.0179)	-0.0334 (0.0190)
UK			-0.1357 (0.0508)	-0.0462 (0.0504)	-0.1374 (0.0504)			-0.1724 (0.0604)	-0.1080 (0.0591)	-0.1753 (0.0594)

Note: Std error in brackets.

Table 8.A. House Ownership

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			0.0927 (0.1390)	0.0988 (0.1329)	0.0894 (0.1371)			0.3070 (0.1312)	0.3818 (0.1301)	0.3222 (0.1326)
Belgium			0.6424 (0.2039)	0.8135 (0.1990)	0.6228 (0.2055)			0.0224 (0.2184)	0.0753 (0.2078)	0.0228 (0.2155)
Denmark			0.5833 (0.2258)	0.7698 (0.2195)	0.5871 (0.2256)			0.5190 (0.3734)	0.8129 (0.4037)	0.5309 (0.3741)
Finland			0.4055 (0.2028)	0.3931 (0.2055)	0.3941 (0.2048)			0.4190 (0.2996)	0.5368 (0.2996)	0.4305 (0.3030)
France			0.3842 (0.0815)	0.3781 (0.0807)	0.3848 (0.0817)			0.3402 (0.0940)	0.3411 (0.0921)	0.3381 (0.0938)
Germany			0.3027 (0.1416)	0.3091 (0.1343)	0.2943 (0.1389)			0.3638 (0.1543)	0.4396 (0.1532)	0.3822 (0.1538)
Greece			0.1094 (0.0766)	0.1257 (0.0761)	0.1275 (0.0762)			0.3726 (0.0756)	0.3523 (0.0759)	0.3711 (0.0753)
Ireland			0.6000 (0.1556)	0.8877 (0.1585)	0.6217 (0.1568)			0.4695 (0.1638)	0.6314 (0.1633)	0.4659 (0.1653)
Italy			0.2757 (0.0575)	0.2895 (0.0574)	0.2710 (0.0575)			0.4585 (0.0587)	0.4522 (0.0590)	0.4508 (0.0589)
Luxembourg			-0.1326 (0.4357)	0.0702 (0.4686)	-0.1583 (0.4733)			0.6198 (0.3510)	0.5748 (0.3753)	0.6348 (0.3617)
Netherlands			0.4537 (0.1208)	0.5589 (0.1184)	0.4611 (0.1215)			0.4554 (0.1210)	0.5168 (0.1236)	0.4642 (0.1213)
Portugal			0.5297 (0.0666)	0.5153 (0.0666)	0.5249 (0.0660)			0.3248 (0.0760)	0.3152 (0.0749)	0.3055 (0.0750)
Spain			0.4299 (0.0620)	0.4589 (0.0629)	0.4239 (0.0620)			0.2837 (0.0604)	0.3005 (0.0615)	0.2755 (0.0601)
UK			0.6332 (0.1388)	0.8499 (0.1549)	0.6194 (0.1389)			0.7942 (0.1573)	0.8877 (0.1625)	0.7776 (0.1590)

Table 8.B. House Ownership

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			0.2543 (0.1143)	0.3058 (0.1138)	0.2440 (0.1132)			0.3912 (0.1196)	0.3943 (0.1111)	0.3756 (0.1139)
Belgium			0.5764 (0.1491)	0.8255 (0.1352)	0.5787 (0.1494)			0.1615 (0.1612)	0.5064 (0.1431)	0.1428 (0.1593)
Denmark			0.1874 (0.2171)	0.4439 (0.2107)	0.1778 (0.2192)			0.4938 (0.2736)	0.5665 (0.2641)	0.5080 (0.2724)
Finland			0.2232 (0.2033)	0.4067 (0.2021)	0.2048 (0.2056)			0.5511 (0.2245)	0.7451 (0.2108)	0.6032 (0.2229)
France			0.4077 (0.0755)	0.4720 (0.0744)	0.4118 (0.0757)			0.3651 (0.0891)	0.4646 (0.0855)	0.3638 (0.0892)
Germany			0.2212 (0.1146)	0.2278 (0.1125)	0.1735 (0.1149)			0.5015 (0.1655)	0.5148 (0.1579)	0.5160 (0.1632)
Greece			0.2024 (0.0713)	0.2509 (0.0709)	0.2263 (0.0713)			0.3562 (0.0691)	0.3511 (0.0684)	0.3577 (0.0686)
Ireland			0.5089 (0.1241)	0.6709 (0.1250)	0.5367 (0.1257)			0.4381 (0.1254)	0.6068 (0.1250)	0.4518 (0.1276)
Italy			0.2262 (0.0510)	0.2623 (0.0512)	0.2151 (0.0508)			0.4300 (0.0536)	0.4870 (0.0542)	0.4194 (0.0536)
Luxembourg			0.2830 (0.3050)	0.5157 (0.3107)	0.3317 (0.2969)			0.3366 (0.3278)	0.1913 (0.3680)	-0.0755 (0.3546)
Netherlands			0.3536 (0.1060)	0.5841 (0.1042)	0.3639 (0.1084)			0.4047 (0.1215)	0.5741 (0.1197)	0.4080 (0.1215)
Portugal			0.4849 (0.0590)	0.5051 (0.0582)	0.4793 (0.0586)			0.3804 (0.0653)	0.3738 (0.0637)	0.3537 (0.0648)
Spain			0.3323 (0.0551)	0.3940 (0.0544)	0.3199 (0.0548)			0.3020 (0.0568)	0.3285 (0.0569)	0.2892 (0.0565)
UK			0.5861 (0.1298)	0.7245 (0.1327)	0.5664 (0.1269)			0.7503 (0.1342)	0.8668 (0.1321)	0.7369 (0.1336)

Table 9.A. Parent Employed

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			0.5301 (0.1237)		0.5370 (0.1231)			0.8822 (0.1495)		0.8614 (0.1496)
Belgium			1.0469 (0.2046)		1.0319 (0.2096)			1.3966 (0.1959)		1.3797 (0.1953)
Denmark			0.8634 (0.2495)		0.8636 (0.2493)			0.3957 (0.4817)		0.4320 (0.4825)
Finland			0.8721 (0.1899)		0.8587 (0.1914)			0.3716 (0.2380)		0.3632 (0.2396)
France			0.5139 (0.0850)		0.5099 (0.0851)			0.5157 (0.1039)		0.5162 (0.1038)
Germany			-0.0205 (0.2364)		-0.0558 (0.2328)			0.3089 (0.2678)		0.2349 (0.2672)
Greece			0.3762 (0.0688)		0.3957 (0.0686)			0.5163 (0.0727)		0.5085 (0.0727)
Ireland			0.6990 (0.0897)		0.6940 (0.0898)			0.7227 (0.0981)		0.7079 (0.0981)
Italy			0.4186 (0.0495)		0.4126 (0.0495)			0.3654 (0.0538)		0.3618 (0.0539)
Luxembourg			-0.4302 (0.4946)		-0.3696 (0.5237)			-0.2033 (0.3529)		-0.2024 (0.3495)
Netherlands			0.6693 (0.1572)		0.6771 (0.1582)			1.0764 (0.1597)		1.0890 (0.1592)
Portugal			0.5436 (0.0682)		0.5423 (0.0677)			0.8486 (0.0785)		0.8371 (0.0783)
Spain			0.7240 (0.0501)		0.7135 (0.0504)			0.7363 (0.0517)		0.7287 (0.0516)
UK			0.7134 (0.1167)		0.7088 (0.1169)			1.0029 (0.1328)		1.0068 (0.1332)

Table 9.B. Parent Employed

Variables	Mother's Economic Satisfaction (Boy)					Mother's Economic Satisfaction (Girl)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria			-0.1664 (0.0817)		-0.1723 (0.0812)			-0.0877 (0.0935)		-0.1012 (0.0918)
Belgium			0.0039 (0.1015)		-0.0110 (0.1032)			0.3702 (0.1122)		0.3540 (0.1120)
Denmark			0.7376 (0.1732)		0.7396 (0.1736)			0.4983 (0.2353)		0.4977 (0.2350)
Finland			0.1883 (0.1592)		0.2182 (0.1613)			0.7575 (0.1722)		0.7440 (0.1714)
France			0.2079 (0.0647)		0.2060 (0.0647)			0.2690 (0.0739)		0.2696 (0.0739)
Germany			0.1619 (0.1106)		0.1533 (0.1102)			0.1152 (0.1598)		0.1156 (0.1570)
Greece			0.0955 (0.0491)		0.1117 (0.0491)			0.1142 (0.0503)		0.1295 (0.0500)
Ireland			0.1265 (0.0736)		0.1274 (0.0736)			0.1866 (0.0778)		0.1894 (0.0782)
Italy			0.2308 (0.0411)		0.2231 (0.0410)			0.2654 (0.0450)		0.2653 (0.0449)
Luxembourg			-0.6319 (0.2482)		-0.5985 (0.2434)			-0.5697 (0.2443)		-0.7104 (0.2469)
Netherlands			0.3380 (0.0850)		0.3419 (0.0852)			0.4287 (0.0965)		0.4297 (0.0960)
Portugal			0.1274 (0.0485)		0.1197 (0.0481)			0.1738 (0.0550)		0.1763 (0.0547)
Spain			0.1159 (0.0420)		0.1139 (0.0418)			0.1460 (0.0445)		0.1390 (0.0443)
UK			0.1600 (0.0887)		0.1638 (0.0882)			0.0354 (0.0954)		0.0355 (0.0952)

*Table 10. Child Income Satisfaction (Multiple Random Effects Ordered Probit)
GLLAMM MODEL*

Variables	Father's Economic Satisfaction					Mother's Economic Satisfaction				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria	0.1183 (0.0227)	0.1120 (0.0226)	0.1056 (0.0225)	0.1309 (0.0231)	0.1294 (0.0231)	0.1602 (0.0215)	0.1561 (0.0215)	0.1529 (0.0215)	0.1734 (0.0220)	0.1720 (0.0220)
Belgium	0.0691 (0.0293)	0.0785 (0.0294)	0.0569 (0.0294)	0.0615 (0.0294)	0.0714 (0.0303)	0.1109 (0.0263)				0.1040 (0.0265)
Denmark	0.1537 (0.0461)	0.1651 (0.0440)	0.1646 (0.0452)	0.1682 (0.0445)	0.1690 (0.0468)	0.0951 (0.0442)	0.1003 (0.0438)	0.0955 (0.0440)	0.0979 (0.0438)	0.0938 (0.0440)
Finland	0.2433 (0.0433)	0.2269 (0.0420)	0.2161 (0.0419)	0.2285 (0.0424)	0.2186 (0.0425)	0.3100 (0.0436)	0.3000 (0.0432)	0.2916 (0.0433)	0.2936 (0.0437)	0.2910 (0.0439)
France	0.1453 (0.0192)	0.1358 (0.0191)	0.1363 (0.0190)	0.1316 (0.0193)	0.1333 (0.0193)	0.1582 (0.0181)	0.1462 (0.0179)	0.1445 (0.0180)	0.1453 (0.0180)	0.1451 (0.0182)
Germany	0.1387 (0.0493)	0.1165 (0.0486)	0.1148 (0.0483)	0.1072 (0.0487)	0.1082 (0.0487)	0.2036 (0.0470)	0.1791 (0.0458)	0.1714 (0.0452)	0.1585 (0.0457)	0.1568 (0.0456)
Greece	0.5276 (0.0208)	0.5086 (0.0205)	0.4838 (0.0207)	0.5313 (0.0211)	0.5140 (0.0212)					
Ireland	0.1546 (0.0207)	0.1473 (0.0206)	0.1506 (0.0207)	0.1576 (0.0211)	0.1630 (0.0212)	0.1507 (0.0199)	0.1439 (0.0198)	0.1449 (0.0197)	0.1554 (0.0202)	
Italy	0.3422 (0.0133)	0.3341 (0.0132)	0.3246 (0.0131)	0.3397 (0.0133)	0.3346 (0.0133)	0.4021 (0.0128)				
Luxembourg	0.4138 (0.0922)	0.3849 (0.0866)	0.3794 (0.0922)	0.3889 (0.0872)	0.3750 (0.0957)					
Spain						0.2360 (0.0113)				0.2341 (0.0113)
United Kingdom	0.1961 (0.0367)	0.1812 (0.0364)	0.1874 (0.0361)	0.1852 (0.0361)	0.1869 (0.0363)	0.2376 (0.0321)	0.2293 (0.0317)	0.2258 (0.0313)	0.2318 (0.0314)	

*Table 11. Log Family Income (Multiple Random Effects Ordered Probit)
GLLAMM MODEL*

Variables	Father's Economic Satisfaction					Mother's Economic Satisfaction				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Austria		0.5220 (0.0765)	0.6190 (0.0802)	0.6758 (0.0798)	0.6493 (0.0806)		0.3669 (0.0681)	0.4722 (0.0722)	0.5220 (0.0710)	0.5084 (0.0719)
Belgium		0.2609 (0.0888)	0.1412 (0.0954)	0.3087 (0.0946)	0.1454 (0.0898)					0.4603 (0.0806)
Denmark		0.8522 (0.1500)	0.6794 (0.1651)	0.8623 (0.1562)	0.7416 (0.1662)		0.9669 (0.1558)	0.8631 (0.1641)	0.9580 (0.1587)	0.8616 (0.1651)
Finland		1.4740 (0.1301)	1.2850 (0.1345)	1.4843 (0.1346)	1.2720 (0.1363)		1.4222 (0.1475)	1.3296 (0.1495)	1.4324 (0.1434)	1.3155 (0.1502)
France		0.7880 (0.0518)	0.7119 (0.0545)	0.8055 (0.0517)	0.7193 (0.0547)		0.7008 (0.0502)	0.6230 (0.0528)	0.7144 (0.0479)	0.6291 (0.0534)
Germany		0.8967 (0.1188)	0.8206 (0.1221)	0.9045 (0.1182)	0.8452 (0.1219)		0.8018 (0.1096)	0.7589 (0.1115)	0.8270 (0.1091)	0.7718 (0.1117)
Greece		0.4648 (0.0315)	0.4174 (0.0320)	0.4963 (0.0318)	0.4310 (0.0322)					
Ireland		0.6392 (0.0630)	0.5002 (0.0666)	0.6856 (0.0645)	0.5279 (0.0672)		0.4621 (0.0581)	0.3835 (0.0610)	0.4831 (0.0608)	
Italy		0.3023 (0.0215)	0.2605 (0.0216)	0.3194 (0.0218)	0.2727 (0.0218)					
Luxembourg		0.0101 (0.2318)	0.0064 (0.2656)	0.1054 (0.2571)	0.0198 (0.2602)					
Spain										0.2638 (0.0199)
United Kingdom		1.1068 (0.0826)	0.9338 (0.0833)	1.0406 (0.0826)	0.9372 (0.0837)		0.7314 (0.0634)	0.6466 (0.0645)	0.7000 (0.0642)	

Table 12 Fathers money metric of child well-being

Variables	Father's Economic Satisfaction (Boy)				Father's Economic Satisfaction (Girl)			
	(2)	(3)	(4)	(5)	(2)	(3)	(4)	(5)
Austria	0.1599823	0.11267702	0.13243809	0.13338892	0.13876833	0.11195487	0.11491382	0.1279112
Belgium	0.12610367	0.29485599	0.14485729	0.27898154	0.18211938	0.24773968	0.17823833	0.26975485
Denmark	0.06449155	0.08301975	0.07203194	0.08237673	0.15529545	0.20438742	0.20859156	0.21752825
Finland	0.11623316	0.12486026	0.11630995	0.12677236	0.15325167	0.16150191	0.14550015	0.16637449
France	0.13851291	0.15331846	0.1352475	0.15256656	0.1337785	0.15056091	0.12933064	0.14975916
Germany	0.23092607	0.23291092	0.23483808	0.24203671	0.09280317	0.09370016	0.08398413	0.08822643
Greece	0.77780664	0.82778081	0.76089761	0.83986382	0.90848418	0.9435208	0.86117694	0.96527891
Ireland	0.23146451	0.24789346	0.20471014	0.24973245	0.1448928	0.17784651	0.13865266	0.18089902
Italy	0.63524795	0.71097311	0.6109511	0.70498542	0.78597006	0.9079129	0.75727978	0.89896257
Luxembourg	0.85167367	0.61251577	0.37861322	0.49272595	0.41737932	0.38300535	0.34722338	0.44824199
Netherlands	0.1859591	0.20324831	0.19662035	0.2035969	0.13265303	0.1388802	0.13067887	0.13541925
Portugal	0.96960583	1.03865992	0.94235407	1.04359843	1.29616933	1.49877257	1.15993392	1.39121567
Spain	0.49757626	0.55697755	0.46005217	0.5519724	0.37072441	0.41786373	0.36630599	0.42171434
UK	0.10549156	0.13307129	0.11757631	0.13744926	0.15296471	0.18606056	0.1639915	0.18189659

Table 13 Mothers money metric of child well-being

Variables	Mother's Economic Satisfaction (Boy)				Mother's Economic Satisfaction (Girl)			
	(2)	(3)	(4)	(5)	(2)	(3)	(4)	(5)
Austria	0.33975595	0.23322424	0.25811146	0.25429266	0.26588822	0.18529794	0.20243079	0.20403453
Belgium	0.10519998	0.15032586	0.13296356	0.14876891	0.15191894	0.1810251	0.15072669	0.17490983
Denmark	0.05531684	0.06235694	0.05682234	0.06342281	0.09253428	0.1370888	0.11561072	0.1189496
Finland	0.08484556	0.09480391	0.08117818	0.08438316	0.21053022	0.26758238	0.21639691	0.2998307
France	0.15759523	0.17689797	0.1623686	0.18079662	0.15366983	0.17417852	0.15329657	0.17436623
Germany	0.1757471	0.17789125	0.17316491	0.18163909	0.16543825	0.17668635	0.15395978	0.16503425
Greece	1.06080165	1.12703723	1.0709184	1.15587831	1.06486409	1.14115131	1.04118927	1.17529211
Ireland	0.26036447	0.28662079	0.26253351	0.29607028	0.16961145	0.2052247	0.17085333	0.20658798
Italy	0.84885688	0.98828305	0.80523939	0.96579253	0.99022986	1.19330292	0.94910182	1.15720308
Luxembourg	0.24971489	0.19861421	0.32168929	0.21431082	0.16196441	0.1756631	0.1745247	0.19334114
Netherlands	0.12748171	0.17031398	0.14391485	0.17764353	0.18987927	0.21820615	0.19616456	0.21817311
Portugal	1.25199303	1.41874616	1.21560045	1.39121236	1.60674095	1.72145886	1.41514374	1.60238441
Spain	0.57212486	0.65196935	0.55828555	0.6493311	0.4185066	0.47886197	0.43497202	0.48910308
UK	0.18200739	0.22635357	0.20161644	0.22966974	0.20052796	0.25034549	0.22349999	0.2478111

Table 14 Gllamm estimated metrics

Variables	Father's Economic Satisfaction				Mother's Economic Satisfaction			
	(2)	(3)	(4)	(5)	(2)	(3)	(4)	(5)
Austria	0.14372372	0.11427578	0.12974851	0.13349647	0.28476269	0.21672519	0.22233431	0.22643878
Belgium	0.21297942	0.28524605	0.14101995	0.34759688				0.1583401
Denmark	0.13296108	0.16627359	0.13387103	0.15639972	0.07173438	0.07651564	0.07066838	0.07528442
Finland	0.11106196	0.12133328	0.11106899	0.12399134	0.15061089	0.15658938	0.14634825	0.15794211
France	0.12269296	0.13630851	0.11631519	0.13193687	0.14835352	0.16493938	0.14463345	0.1640183
Germany	0.09100703	0.0979956	0.08301994	0.08967347	0.15644637	0.15818388	0.13423313	0.14229094
Greece	0.92909647	0.98415611	0.90896281	1.0125965				
Ireland	0.15720104	0.20538594	0.15681039	0.2106325	0.21170785	0.25687104	0.21868858	
Italy	0.82577639	0.93103267	0.79466625	0.91677958				
Luxembourg	25.1636482	39.1439295	2.43637649	12.505848				
Netherlands								
Portugal								
Spain								0.60637214
UK	0.14864634	0.18221365	0.16159292	0.18106821	0.28053785	0.31248603	0.29631781	

5. Conclusions

Our aim has been to model altruism using the framework of an ordered probit model with multiple random effects (unobserved child-individual effect, sharing the same parents effect, and the effect of being siblings or belonging to the same household). These three levels allow us not only to address the problem of unobserved individual heterogeneity, but also to distinguish between those family shocks that siblings experience and are correlated because of either genetic reasons or due to the fact of being reared together.

We have confirmed the presence of significant altruism between parents and children. In general, we find that mothers seem more altruistic towards their sons than daughters and fathers more altruistic towards their daughters than their sons.

There are a number of extensions to the analysis here that would be worthwhile. One important extension would be to look at the impact of parental separation on the children and how child support policy might be used to offset that effect.

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Appendix 1: Random Effects Ordered Probit

$$y_{it}^{p*} = x_{1it}^p \beta_1 + x_{2it}^p \beta_2 + x_{it}^c \beta_3 + y_{it}^c * \beta_4 + \alpha_i + e_{it}$$

where y_{it}^{p*} is the latent subjective well-being of the father or the mother. e_{it} is a white noise error term and α_i the unobserved heterogeneity of the child that can be treated as a random effect (independent from the explanatory variables in the model).

$$y_{it}^{p*} = x_{it}' \beta + y_{it}^c * \beta_4 + \varepsilon_{ijht} \quad \text{where } \varepsilon_{ijht} = \alpha_i + e_{it}$$

$$y_{it}^{p*} = \begin{cases} 1 & \text{if } y_{it}^{p*} \leq k_1 \\ 2 & \text{if } k_1 < y_{it}^{p*} \leq k_2 \\ \vdots & \vdots \\ 6 & \text{if } y_{it}^{p*} > k_5 \end{cases}$$

k_1, \dots, k_5 are cut points estimated jointly with the β 's and β_4 , the conditional probabilities of the ordered responses are given by

$$f(y_{it} | x_{it}, y_{it}^c *, \alpha_i) = \Phi(k_6 - \alpha_i - x_{it}' \beta - y_{it}^c *) - \Phi(k_5 - \alpha_i - x_{it}' \beta - y_{it}^c *)$$

where Φ denotes the distribution function of the standard normal distribution.

Appendix 2: Multiple Random Effects Ordered Probit

$$y_{ijht}^p * = x_{1ijht}^p \beta_1 + x_{2ijht}^p \beta_2 + x_{ijht}^c \beta_3 + y_{ijht}^c * \beta_4 + a_h + b_{jh} + c_{ijh} + e_{ijht}$$

$$y_{ijht}^p * = x_{ijht}' \beta + \varepsilon_{ijht}$$

$$y_{ijht}^p * = \begin{cases} 1 & \text{if } y_{ijht}^p * \leq k_1 \\ 2 & \text{if } k_1 < y_{ijht}^p * \leq k_2 \\ \vdots & \vdots \\ 6 & \text{if } y_{ijht}^p * > k_5 \end{cases}$$

Where e_{ijht} is normally distributed with mean 0 and variance 1. Conditional on the three random effects a_h , b_{jh} , c_{ijh} , and x_{ijht}

$$f(y_{ijht} | x_{ijht}, a_h, b_{jh}, c_{ijh}) = \Phi(k_6 - x_{ijht}' \beta - a_h - b_{jh} - c_{ijh}) - \Phi(k_5 - x_{ijht}' \beta - a_h - b_{jh} - c_{ijh})$$

where Φ denotes the cumulative density function of the standard normal distribution. The threshold parameters k_1, \dots, k_5 are estimated together with β .

Observations are independent across households. Within siblings, observations are not independent, since a_h is common to all siblings living in the same household and time periods, b_{jh} is common to children that share the same biological parents, and c_{ijh} is common to all time periods for a given child.

$$\varepsilon_{ijht} = a_h + b_{jh} + c_{ijh} + e_{ijht}$$

where e_{ijht} is a white noise error term (short-term effect). c_{ijh} is the child specific random effect that does not vary over time. b_{jh} is the child sharing same biological parents specific random effect, that does not vary across siblings that share same parents. And then a_h is the household specific random effect that does not vary across siblings within the family or over time. This last three error components are capturing long-term effects.

$\sigma_\varepsilon^2 = \sigma_a^2 + \sigma_b^2 + \sigma_c^2 + \sigma_e^2$ assumed mutually independent and distributed with mean zero and constant variances component. Where σ_e^2 is normalized to 1.